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BDCP/WaterFix Comments
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Subject: City of Sacramento Comments on the California Water Fix Recirculated Draft Environmental Impact Report and Supplemental Draft Environmental Impact Statement

To Whom It May Concern:

The City of Sacramento (Sacramento) appreciates the opportunity to provide comments on the July 10, 2015 California Water Fix Recirculated Draft Environmental Impact Report and Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). Sacramento previously submitted comments on the Bay Delta Conservation Plan (BDCP) and associated Draft Environmental Impact Report and Draft Environmental Impact Statement (DEIR/DEIS).¹ No response to these comments was provided, and a majority of our significant comments were not addressed in the RDEIR/SDEIS. We incorporate these previous comments into this comment letter.

Sacramento provides a potable water supply primarily from surface waters tributary to the Delta that serves more than 136,000 customer accounts, and over 480,000 residents. Sacramento's diversions of surface water are made pursuant to pre-1914 rights, five water right permits, and a permanent water right settlement contract with the U.S. Bureau of Reclamation. In addition, Sacramento provides the following critical services that benefit City residents and businesses as well as the Delta:

- Municipal separate storm sewer system (MS4) services that include a management program, compliance with the National Pollutant Discharge Elimination System permit (NPDES No. CAS082597, Order No. R5-2015-0023), and participation in the Sacramento Stormwater Quality Partnership (SSQP). The SSQP is a multi-jurisdictional program comprised of Sacramento County and the incorporated cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova (Permittees) to provide education and outreach to reduce pollution and to standardize pollution best management practices for development projects across the region. The SSQP and Permittee programs have supported water quality improvements in local creeks and rivers for more than 25 years.

¹ City of Sacramento Comments on the Bay Delta Conservation Plan (BDCP) Draft DEIR/EIS and the BDCP. July 22, 2014.

The Stormwater Quality Program includes construction, industrial, illicit discharge, new development, municipal, and public outreach elements and target pollutant efforts that are designed to improve water quality.

- A combined sewer system (NPDES No. CA0079111, Order No. R5-2015-0045) that treats wastewater and more than 99.5% of the stormwater drainage from an 11.3 square mile area in Sacramento's Downtown, East Sacramento, and Land Park areas, providing secondary treatment for approximately 97% of the total wastewater and stormwater flows.

Sacramento values environmental resources and is committed to the protection of our waterways, biological species and habitat, and other environmental resources. Preservation of these environmental resources and maintenance of their quality is not only beneficial to current residents but is crucial to the sustainability and quality of life of future generations. Sacramento has been a major participant in the Sacramento Area Water Forum in support of regional water supply reliability and protection of the Lower American River environmental values. Sacramento supports the co-equal goals of restoring the ecological health of the Delta and creating a reliable water supply for all of California.

Sacramento is also participating with the North State Water Alliance (NSWA) and the American River Water Agencies (ARWA) in preparing and submitting comments on the CA Water Fix documents. The comments by these two groups largely focus on the deficiencies in the documents relative to water supply and hydrologic and fisheries analysis. Sacramento incorporates those comment letters by reference into this comment letter. For the reasons set forth in those comment letters, and in this comment letter, the RDEIR/SDEIS is inadequate and would violate CEQA if adopted as a final EIR. To comply with CEQA, the proposed project's environmental analysis must be revised to address the numerous fundamental flaws that have been identified in the RDEIR/SDEIS and the previous DEIR/DEIS, and circulated for public review and comment prior to the release of any final BDCP and California Water Fix documents and before any decisions are made regarding permitting or implementing the proposed project.

The SSQP is also submitting comments on the CA Water Fix documents, and Sacramento supports the comments made by the SSQP.

There are many noteworthy concerns Sacramento has on the CA Water Fix documents. One outstanding issue is the inclusion of Conservation Measure 19 (CM19) Urban Stormwater Treatment. CM19 in the RDEIR/SDEIS was not revised to sufficiently address the major comments provided by Sacramento and the SSQP on the BDCP and the DEIR/DEIS, and it is unclear whether CM19 is intended to be implemented as part of the proposed project, California EcoRestore, or indirectly through existing programs. Municipal separate storm sewer system (MS4) agencies already have significant investment in control strategies, monitoring, and adaptive management programs, including participation in the Delta Regional Monitoring Program (RMP).

The RDEIR/SDEIS and appendices that include BDCP revisions² (California Water Fix documents) and the BDCP and DEIR/DEIS³ (BDCP documents) supporting the proposed project are complex, both technically and organizationally. Our comments here are based on the California Water Fix documents; however, it is impossible to not incorporate references to the BDCP documents because it is not always clear: 1) what portions of the BDCP documents are applicable to the California Water Fix and 2) whether previous comments on those documents were adequately addressed. This unnecessarily complicates commenting and reduces the level of public transparency.

²http://baydeltaconservationplan.com/2015PublicReview/PublicReviewRDEIRSDEIS/PublicReviewRDEIRSDEIS_Links.aspx

³ <http://baydeltaconservationplan.com/EnvironmentalReview/EnvironmentalReview/2013-2014PublicReview/2013PublicReviewDraftBDCP.aspx>

Major concerns on the California Water Fix documents are as follows:

1. Insufficient and Inadequate Description of Scope of Project (Scope)
2. Water Quality Impacts Not Adequately Addressed (WQ)
3. Insufficient Scope of Project Alternatives and Environmental Review (Alternatives)
4. Insufficient Plan to Adaptively Manage Exports and Water Quality (AM)
5. CM19 Is Not Adequately Revised (CM19)
6. Lack of Clarity of Document, Errors, and Omissions (Clarity, Error, or Omission)

Sacramento has reviewed the water quality analysis and related materials included in the California Water Fix documents and found numerous issues and deficiencies, which are generally discussed in this letter. These are supported by the specific comments provided in Attachment A, which is included and incorporated in our comments. The specific comments identify the major comment areas to which they are applicable.

1. INSUFFICIENT AND INADEQUATE DESCRIPTION OF SCOPE OF PROJECT

The recirculated California Water Fix documents inadequately describe the scope of the project, which has significant influence both upstream and downstream of the proposed North Delta diversions. The limited Plan Area and Study Area do not match the entire area of influence of the proposed actions in the water quality evaluation and cumulative analysis. Moreover, the cumulative analysis does not consider the relative importance of all factors, including diversions in recent years that have led to the decline of covered species.

The California Water Fix documents limit the effects analysis to construction phases and the cumulative impact analysis to downstream areas only. However, impacts from the proposed project actually extend to the entire watershed, up to the reservoirs as a result of changes to reservoir releases to compensate for North Delta diversion of higher quality water out of the Delta. For example, much of the Section 4 Alternative Analysis refers to changed reservoir operations and the resulting impacts on reservoir storage (page 4.3.1.3, lines 1 – 4):

A comparison with storages under the No Action Alternative provides an indication of the potential change due to Alternative 4A and the results show that average annual end of September Shasta Lake storage could remain similar or decrease under Alternative 4A as compared to the conditions without the project.

Lower levels in the reservoirs would likely degrade water quality as temperatures increase and more sediment-bound constituents are liberated from reservoir sediments. Upstream of the proposed North Delta diversion, Sacramento relies on American River water managed by reservoir releases that will be directly impacted by the proposed project. These effects would also likely occur in the Sacramento River, which is also managed by reservoir releases. The California Water Fix documents do not adequately incorporate these areas in the assessment. This lack of specific detail on the Project Area masks and prevents identification of expected effects. If the proposed project causes changes, the project area should include all of the impacted areas. Moreover, the 2013 Delta Plan (Chapter 6, Page 230) includes recommendation WQ R2 that "Covered actions should identify any significant impacts to water quality." All Project actions and combinations of their cumulative and triggered effects should therefore be evaluated for all impacts. To meet the Delta Plan recommendations as well as CEQA/NEPA requirements, a reasonable evaluation of the implementation schedule for adaptive management actions, identification of the most critical conservation measures, and an overall

assessment of water quality impacts including upstream and downstream effects should be performed and clearly presented.

The Project scope definition insufficiently and unclearly describes the specific details on how related projects will be incorporated consistent with CM2-21 and the Avoidance and Minimization Measures associated with those (CM22). The California Water Fix documents refer to the BDCP documents on several occasions, including the range of possible conservation measures. The preferred California Water Fix alternative (Alternative 4A) does not include these conservation measures, and the RDEIR/SDEIS only proposes a limited number and scope of "Environmental Commitments" (New Alternatives, Section 4, page 4.1-5, Table 4.1-1) that do not attempt to mitigate the identified impacts of the operation of the proposed project. The California Water Fix documents should evaluate the range of reasonable mitigation measures. Historical operations, including in this current drought, have not been consistent with the regulatory operating requirements, and it is important to explain how the environment and beneficial uses will be protected during all hydrologic and operational conditions, including these periods of exceptions.

In addition to lacking clear definitions of the project area extending beyond the construction footprint, the BDCP documents and California Water Fix documents also lack clear descriptions of milestones and/or compliance schedules. The proposed Project relies heavily on adaptive management, but it lacks clear definitions of the target endpoints or "decision points." For example, the RDEIR/SDEIS should include clear goals and timelines for species population stability and recovery. If these goals are not met according to the timeline, mitigation measures should be triggered.

The CA Water Fix must provide a clear explanation of the project scope and area for both the construction and operation of the project.

2. WATER QUALITY IMPACTS NOT ADEQUATELY ADDRESSED

In our previous comments we identified several key areas of water quality impacts and insufficiently evaluated water quality degradation, which others including USEPA have echoed⁴. Based on our review of the California Water Fix documents, these concerns have not yet been addressed through more robust evaluation and proposed mitigation.

The California Water Fix documents identify areas of water degradation and numerous significant and unavoidable impacts. The justifications for the allowed impacts focus on specific locations and relative changes to the current condition and the no action alternative (NAA). All these cases include the significant export of water out of the watershed. The cumulative impact of the proposed North Delta diversion and the coordinated upstream water management system are not adequately characterized or mitigated. Full mitigation of the impacts is not evaluated, though in some cases this is required by federal and state Antidegradation Policy. A thorough evaluation would provide a better and more informative indicator of the actual impacts and cost to fully mitigate. The project must provide full mitigation of the impacts to prevent costs from being passed on to local agencies that are not the proposed project beneficiaries. Moving forward with the California Water Fix without full mitigation would reinforce the current and historic reactive approach to ecological management that is inconsistent with the Delta Plan Co-equal Goals.

The water quality impacts are not adequately summarized for the purpose of evaluating the impact of the proposed North Delta diversion. The mass of any constituent (e.g., flow volume, salts, metals, etc.) exported under the proposed scenarios should be compared to the mass exported under the current

⁴ Kathleen Martyn Goforth, Manager Environmental Review Section EPA Region 9 (ENF-4-2). *Draft Environmental Impact Statement for the Bay Delta Conservation Plan, San Francisco Bay Delta, California (CEQ# 20130365)*. August 26, 2014

and baseline conditions. If the exported mass decreases under the proposed diversions, the proposed project is increasing the mass remaining in the Delta. When both are normalized or averaged for the flow volume, the overall concentration increase could be quantified. This relatively simple approach would provide the context necessary to identify cumulative impacts.

There are a number of significant impacts that are identified in the analysis, most notably including the electrical conductivity exceedances at Sacramento River at Emmaton. (New Alternatives: Alternatives 4A, 2D, and 5A Alternative 4A Water Quality, page 4.3.4-24, lines 15-18):

Modeling results indicated that the Emmaton EC objective would be exceeded more often under Alternative 4A than under Existing Conditions and the No Action Alternative (ELT), and that increases in EC could cause substantial water quality degradation in summer months of dry and critical water years

The number of exceedances in this case is four times the current condition and nearly double the No Action Alternative (Appendix 8H, page 6, Table EC-4). Potential upstream impacts are completely ignored, and there is clear potential for water quality impacts on water resources upstream from this location.

Full mitigation of water quality impacts must be evaluated, including specific plans for the relied-upon adaptive management, consistent with antidegradation requirements.

Upstream Water Quality Impacts

There are numerous cases where the proposed project refers to upstream effects and provides some operational changes, especially as it relates to fish passage. For example, Section 4 (page 4.1-13, lines 19 through 25) states:

The RTO Team in making operational decisions that depart from the criteria used in the modeling will take into account upstream operational constraints, such as coldwater pool management, instream flow, and temperature requirements.

This acknowledgement that upstream effects are likely, and will require Real Time Operations (RTO) management, also indicates a clear potential impact to upstream water quality. However, the Section 8 Water Quality analysis (page 8-93, lines 8 through 10) states that without the proposed project upstream EC effects would not degrade:

An effect on salinity (expressed as EC) would not be expected in the rivers and reservoirs upstream of the Delta.

This acknowledges that there are EC increases due to the proposed project that would result in more tidal (i.e., salinity gradient) influences on upstream rivers. The water quality analysis of Alternative 4A does not make any specific findings or quantifications regarding EC changes upstream of the proposed North Delta diversion, and the Appendix 8H modeling results do not include sites upstream from Emmaton, despite the significant degradation expected at that location. This evaluation is an example of the insufficient and incomplete assessment regarding the significant effects on the rivers upstream of the proposed project, which will be amplified by climate change and sea level rise.

A more detailed quantitative (modeled) assessment of water quality conditions upstream from the proposed North Delta diversion must be provided.

Insufficient Assessment of Spatial Extent of Microcystis Impacts

Table 8-60a (Section 8, page 8-83) presents the significantly increased residence times during the fall in the North Delta under Alternative 4 H3 (57 days) in comparison to Existing Conditions (49 days) and the No Action Alternative (50 days). Increases in average residence time are predicted in the North Delta year-round with significant increases in the fall. Cache Slough, East Delta, West Delta, and South

Delta had increases for every season except Cache Slough in the fall. Temperature and residence time increases are the most critical factors driving microcystis blooms in the Delta.⁵ Given the predicted increases in Delta water temperatures due to climate change and proposed project effects based on the modeling provided in California Water Fix documents and BDCP documents, the increased residence times associated with the proposed project may lead to increased occurrence, spatial distribution, and magnitude of Microcystis blooms in the Delta. The residence time analysis did not evaluate the impacts further upstream. There is the potential for these blooms to migrate upstream due to tidal action under low flow conditions in the Sacramento and American Rivers. This is in the vicinity of numerous municipal water supply intakes and a highly utilized recreational and wildlife habitat area. These impacts are not evaluated in the California Water Fix documents.

The residence times upstream of the proposed North Delta diversion must be evaluated to determine if microcystis blooms will migrate upstream.

Removal of Conservation Measures and Lack of Water Quality Mitigation

The Section 2 Substantive Revisions consider the “removal” of conservation measures and other water quality model “improvements”, and conclude for electrical conductivity and chloride (Section 2, page 2-10, lines 40 and 41) that “although the impacts remain significant and unavoidable, the magnitude of the impacts is substantially less than was indicated in the Draft EIR/EIS.” It is not clear if the “substantial improvement” is due to the removal of the conservation measures or the modeling revisions. The conservation measures are cited in the cumulative analysis as future activities for the many benefits they would provide especially restoration areas and infrastructure investment; however, as stated in Section 2 it may be inferred that their inclusion would then cause “substantial degradation” in the context of the electrical conductivity and chloride cumulative analysis.

The Section 5 – Revisions to Cumulative Impact Analyses does not clearly evaluate the impacts of the Conservation Measures and refers to the BDCP documents without clarifying the limit of their applicability. For example, Section 5 (page 5-16, lines 18-21) states that:

Concurrent implementation of CM1 with CM2–CM21 under Alternatives 1A–5 is not expected to result in more adverse/significant impacts than described for the separate conservation measures, because the mercury conditions in water and fish resulting from CM1 would be similar to Existing Conditions.

If the case is CM2-CM21 will occur outside of the project, then the cumulative impact analysis should consider the impacts from the restoration areas (e.g., methylmercury generation). The RDEIR/SDEIS analysis assumes only the beneficial outcomes of these future activities, which results in segmenting and masking the overall proposed project impacts. Moreover, the cumulative impacts of future restoration actions intended to mitigate the impact of the California Water Fix should consider the relevant water quality regulations, including consistency with Total Maximum Daily Loads (TMDLs).

California EcoRestore and all associated mitigation plans must evaluate consistency with water quality regulation and allow a review period before the California Water Fix is finalized.

The California Water Fix economic analysis does not identify significant economic impacts on local agencies; nor does it include evaluation of the cost of eventual implementation of CM2-CM21 through California EcoRestore or other programs used to mitigate the impacts of the California Water Fix. The water quality and habitat degradation caused by the California Water Fix and its mitigation could require local agencies to perform their own mitigation to protect natural resources, including water supply.

⁵ Cyanobacteria white paper prepared for Central Valley Regional Water Quality Control Board science effort on Delta water quality problems and nutrient water quality objective evaluation.

Degradation caused by the North Delta diversion and related restoration activities should be fully mitigated by the project proponents.

California Water Fix documents must include significant and reliable water quality improvement funding assurances specific to the Delta and tributary watersheds.

Lack of Support for All Beneficial Uses

The California Water Fix documents inadequately evaluate the impacts to all drinking water sources (MUN) and recreational (REC) beneficial uses in the American River and Sacramento River. The analysis fails to examine the water quality impacts on existing and future water intakes upstream of the proposed North Delta diversion. Degradation due to salinity, temperature, and possible higher loads of metals liberated from reservoir releases may increase the water treatment requirements on the American and Sacramento Rivers. The Lower American River is part of the National Wild and Scenic River system and provides recreation, habitat, and drinking water supply. This 23 mile stretch of river from Nimbus to the confluence with the Sacramento River is the most heavily used recreation river in California.⁶ These specific resources and current beneficial uses are not identified in the Appendix A - Section 8 (Water Quality) or Appendix A – Section 15 (Recreation) documents. The Sacramento and American Rivers provide these beneficial uses to a large population of Northern California residents, and their further impairment from the proposed project should be fully mitigated.

Potential impacts to beneficial uses of the affected water bodies, including the reduced opportunities for recreation, aquatic life impacts, and health risks to humans related to the California Water Fix and related mitigation efforts, must be evaluated to identify reasonable mitigation actions and their costs.

Insufficient Evaluation of Water Quality Regulations

Sacramento previously provided extensive comments on consistency with the Federal Antidegradation Policy. There is no indication that these issues were addressed in the RDEIR/SDEIS, which is required according to the requirements of the Clean Water Act and the Federal Antidegradation Policy; therefore, the original comments are applicable to the California Water Fix documents. The BDCP documents and California Water Fix documents do not address the consistency of the proposed project with those requirements, which are an important element of water quality standards. Specifically, the documents fail to address the identified significant degradation of 303(d) listed waters that would result from the proposed project, including the aforementioned increases in salinity (EC) and other constituent violations. Thus, the documents insufficiently address the requirements of the Federal Antidegradation Policy.

A full Antidegradation Analysis must be performed for any cases where the proposed project may cause or worsen a water quality impairment or otherwise substantially reduce the available assimilative capacity.

Insufficient Demonstration of Delta Plan Consistency

The California Water Fix documents do not demonstrate a commitment to meet the Delta Reform Act and Delta Plan co-equal goals. The California Water Fix (Appendix G-4A, page G-1, lines 17-19) specifies that "...Alternative 4A will not be incorporated into the Delta Plan and will follow a different process to demonstrate consistency with the Delta Plan." However, the Appendix G-4A analysis does not sufficiently demonstrate consistency with the Delta Plan co-equal goals. Measures are not adequately developed to mitigate the "far-field" impacts of the California Water Fix in the North Delta and upstream locations. Appendix G-4A refers to the Executive Summary (Table ES-9) for a list of

⁶ <http://www.rivers.gov/rivers/american-lower.php>

these measures; however, Table ES-9 does not provide mitigation for a number of significant water quality impacts. The RDEIR/SDEIS then refers to the "Mitigation, Monitoring and Reporting Program (MMRP) that will be available with the Final EIR/EIS." (page G-4, lines 9-10). The RDEIR/SDEIS is incomplete, and it is not possible to evaluate consistency with the Delta Plan without allowing sufficient time to review the MMRP. Appendix G-4 and the California Water Fix documents do not adequately evaluate key science questions previously identified in our review and in the Independent Science Board (ISB) review⁷. The California Water Fix documents, including the Appendix G discussion of Delta Plan consistency, do not provide a clear commitment to collaborative science and adaptive management that is required under the Delta Plan. The California Water Fix documents do not specifically include any demand management measures as required by the Delta Plan. Demand management and regional water supply self-reliance are key elements of the Delta Plan, but these are inadequately presented in the California Water Fix documents without commitments to key implementation targets.

As described in the RDEIR/SDEIS, the project purports to meet the co-equal goals of the Delta Reform Act and Delta Plan by providing flexibility in managing water diversions between the North and South locations; however, in practicality the proposed project incurs risk. This includes risk of the continued decline of habitat with the hydrodynamic changes, and additional species that may go extinct or no longer be present in the Delta and tributary systems. The California Water Fix documents should provide assurance that all reasonable circumstances and conditions were reviewed and considered for risk and the opportunity for mitigation. Full commitment to meet the co-equal goals should include a plan to fund the necessary monitoring and mitigation to protect the Delta's beneficial uses.

Complete documentation of Delta Plan consistency (i.e., the MMRP, the response to comments on the BDCP and DEIR/DEIS, and revisions to the California Water Fix documents) must be circulated for public review with adequate time for review, comment, and revision prior to release of any final BDCP and California Water Fix documents.

Insufficient Evaluation of Long-Term Effects

The proposed project permit period is shortened from fifty years to fifteen years in the California Water Fix documents, and the scope of impacts evaluated is constrained to the fifteen years. Construction and ongoing operation of the proposed North Delta diversion has significant long-term impacts that are not adequately evaluated. When the next permitting cycle begins, the proposed California Water Fix will be the new baseline, and shortening the permit periods could effectively set up a cycle of incremental impacts that do not consider the overall long-term impact of the proposed project. Incremental changes may be small compared to the baseline, but the baseline is already an impaired condition.

The RDEIR/SDEIS must include an analysis of long-term effects from the proposed project, including cumulative effects with associated projects such as CA EcoRestore.

3. INSUFFICIENT SCOPE OF PROJECT ALTERNATIVES AND ENVIRONMENTAL REVIEW

The RDEIR/SDEIS provides an insufficient range of reasonable alternatives. This issue was previously identified by Sacramento in comments on the BDCP documents as well as in comments by many reviewers including U.S. EPA Region IX. This is important to ensure that there are alternatives that "would avoid or substantially lessen any of the project's significant effects" (CEQA Guidelines §15126.6, subd. (a)).

⁷ Delta Independent Science Board. Environmental Documents for California WaterFix. September 14, 2015
<http://deltacouncil.ca.gov/docs/delta-isb-s-review-rdeirsdeis-bdcp-california-waterfix>

The California Water Fix documents add additional alternatives and "sub-alternatives", but still do not provide a true alternative approach that would distribute the system management in a "portfolio" approach that reduces the needs for Delta diversions. Examples of alternatives that are not discussed or not discussed in sufficient detail include improved South Delta fish screening, demand management, water reuse, and desalinization. To provide the appropriate context for the proposed North Delta diversions, analysis of the cost and benefits of these alternatives is necessary. Conceptual models and evaluations could effectively demonstrate the relative importance of a range of supply volume options, the benefits to water quality in the Delta (i.e., as a load reduction or concentration improvement that could benefit covered species), and the costs of such actions.

The proposed alternatives do not evaluate the upgrade of fish screens in the South Delta diversion. No technical infeasibility is provided for this omission. With the continued operation of the South Delta diversion, it is not clear that the full benefit to the covered species will be achieved.

The Delta Plan requires that demand management be evaluated and included as part of a covered action. The analysis of demand management in the California Water Fix documents includes only a brief discussion of existing conservation programs on the statewide and local scale without providing specifics on target conservation requirements. To balance the co-equal goals, the demand on the Delta should be reduced.

The proposed alternatives do not evaluate mitigation opportunities with water reuse, groundwater recharge projects, and stormwater infiltration, though they are identified as effective measures to increase water supply in key strategy documents in the California Water Plan⁸.

Desalinization projects will not cost effectively satisfy all of California's scarcity issues, but this is another example of an alternative that should be considered within a portfolio approach to meet the co-equal goals of improving reliability of water supply and improving the Delta ecosystem.

The RDEIR/SDEIS suggests that unnamed "other programs" that are "separate from the proposed project" will use elements of the BDCP to implement long-term conservation measure efforts that are not part of California Water Fix (Section 1, page 1-3, lines 24 through 26). The proposed North Delta diversion should include assurances for funding of these measures.

Separate from the adequacy of the alternatives themselves, the dispersion of the alternatives analysis throughout thousands of pages, the over-simplified conclusions about tradeoffs, and the incomplete consideration of uncertainty, each frustrate the ability of any decision-maker or RDEIR/SDEIS reviewer to consider if the preferred action is indeed the best approach for meeting the project purposes.

There are many environmental impacts described as significant before and after mitigation that are compiled in the Attachment A specific comments, without any specific mitigation being proposed or evaluated. Adaptive management and the need for flexibility should not be used as the rationale to omit this important information during the Public Review process.

The necessary mitigation to meet environmental mitigation obligations, including descriptions and commitments on how the mitigation will be conducted, must be circulated for public review with adequate time for review, comment, and revision prior to the release of any final BDCP and California Water Fix documents .

4. INSUFFICIENT PLAN TO ADAPTIVELY MANAGE EXPORTS AND WATER QUALITY

The proposed California Water Fix relies on future, non-specific adaptive management to mitigate its impacts without providing clear and specific goals, outcomes, and timelines. While Sacramento is

⁸ http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/03_Vol1_Ch02_Imperative_to_Invest_in_Innov_and_Infrastr.pdf
page 2-16

encouraged by the participation of the Independent Science Board and other “third-party” entities, there are no clear commitments to fund sufficient science and modeling for all stakeholders. Although efforts to adaptively manage environmental systems to minimize impacts on covered species and beneficial uses are important, the historical adaptive management program has failed and must be fundamentally changed to achieve collaborative partnerships to meet the co-equal goals. The proposed project construction, mitigation, and operations could provide opportunities for adaptive management, both for the benefit of the project as well as for Delta ecosystem recovery. However, such a specific roadmap is not developed. The BDCP and RDEIR/SDEIS defer specific planning actions and governance to a later time to adaptively address issues as they arise (Executive Summary, page ES-17, lines 7 through 9):

An adaptive management and monitoring program will be implemented to develop additional scientific information during the course of project construction and operations to inform and improve conveyance facility operational limits and criteria.

This reactive approach will not be effective, because ecological systems and species may collapse completely before correction actions are taken. The California Water Fix documents should include specific commitments and schedules for monitoring, assessment, engagement of local agencies, and implementation of actions before thresholds of beneficial use impairments are realized. The California Water Fix documents and BDCP documents defer details on how adaptive management will be made to work. The California Water Fix documents appear to weaken commitments to any Delta Adaptive Management Team that is broad based and implements the co-equal goals. The RDEIR/SDEIS sections on collaborative science (ES.4.2 and 4.1.2.4) cite recent progress toward truly collaborative efforts in monitoring and synthesis in support of adaptive management in the Delta. However, it is necessary to provide more specific commitments and funding to make adaptive management and collaborative science function properly. The current level of assurance falls short of the serious attention to adaptive management that would be consistent with the Delta Reform Act. We have noted this shortcoming before and it is echoed by others, including the Independent Science Board.

The lack of impact assessment to upstream areas in the California Water Fix documents and BDCP documents suggest that these potential impacts will not be considered as part of the adaptive management and science programs that are referenced. These potential beneficial use impacts to the upstream water bodies include water quality related (MUN), biological (COLD, WARM), recreational (REC), and agricultural (AGR).

California Water Fix must include specific commitments to monitoring, assessment, engagement of local agencies, and implementation of actions before thresholds of beneficial use impairments are realized.

A stakeholder group must be broadened to consider the interests of other stakeholders and other beneficial uses impacted by the CA Water Fix project in the Delta and the tributary upstream and downstream waters.

Insufficient Commitment to Collaborative Adaptive Management and Science Funding

The described collaborative science includes only a limited group with limited commitment for funding. Due to the potential significant impacts of the proposed project, it is important that there be commitment for long-term monitoring to ensure that the necessary information be available to inform selection of the most effective mitigation efforts. The document provides an inadequate description of an Adaptive Management Program and Monitoring Program. At a minimum, more information should be provided on key components of these programs, including an outline of their structure and the types of evaluations and studies that will be considered, as well as an implementation schedule. Sacramento and other Delta stakeholders have participated in the Delta RMP. Technical and information gathering stakeholder groups like this should have defined roles in a collaborative Delta science framework.

At a minimum, more information must be provided on key components of these collaborative adaptive management programs, including an outline of their structure and the types of evaluations and studies that will be considered, as well as an implementation schedule and any required benchmarks that are linked to operations and species recovery.

The adaptive management and monitoring program structure and discussion must be updated to encourage and incorporate consensus science through coordination and participation in regional scientific and monitoring programs. Funding for the Delta RMP and Delta water quality modeling tools must be specified.

Adaptive Management Relied On But Insufficiently Evaluated for Potential Impacts

In the following text the California Water Fix documents suggest that the AMMP is a tool to inform operations, but not an action that has any environmental impact by itself:

For the purposes of analysis, it is assumed that the Collaborative Science and Adaptive Management Program (AMMP) developed for Alternative 4A would not, by itself, create nor contribute to any new significant environmental effects; instead, the AMMP would influence the operation and management of facilities and protected or restored habitat associated with Alternative 4A. (page 4.1-18, lines 20-25)

As previously commented, the project proposes to mitigate EC water quality impacts with adaptive management. The intent by the project proponents is then to use the AMMP as a process and planning document for mitigation of the Delta diversions. While this is not a specific action, it is a planning document for a series of interrelated actions that may not be considered individually or as a cumulative whole for impacts. The AMMP should be considered as part of the cumulative impact assessment and to demonstrate the overall benefit of the Delta diversion mitigation measures.

The proposed AMMP must provide more detail and a demonstration of how such a program could reasonably assure compliance with water quality regulations (i.e., water quality standards), including a discussion of the specific tasks and tools that will be developed through adaptive management. These tools should be available to a wide range of stakeholders to improve broad-based collaborative science and coordination. The collaborative science approach should be inclusive at the "base" where the science is performed as well as at the "top" where the ISP provides review and direction.

The California Water Fix description of the forthcoming AMMP provides little detail on how and when the AMMP will be applied without consideration for a wider range of reasonable mitigation measures:

Specifically, collaborative science and adaptive management will, as appropriate, develop and use new information and insight gained during the course of project construction and operation to inform and improve:

- *the design of fish facilities including the intake fish screens;*
- *the operation of the water conveyance facilities under the Section 7 biological opinion and 2081b permit; and*
- *habitat restoration and other mitigation measures conducted under the biological opinions and 2081b permits. (page 4.1-18, lines 28-35)*

The type of actions listed above are too limited to address the range of possible water quality impacts that are already identified, and do not address the potential benefit of other measures required by the Delta Plan such as demand management. The AMMP must consider a broader range of mitigation and operational activities, including demand management.

In the following text the California Water Fix documents summarize the overall goals of the AMMP:

In summary, the broad purposes of the program will be to: 1) undertake collaborative science, 2) guide the development and implementation of scientific investigations and monitoring for both

permit compliance and adaptive management, and 3) apply new information and insights to management decisions and actions. (page 4.1-18, lines 36-40)

The purposes presented are beneficial but are only aspirational without commitments to more thoroughly evaluate the effectiveness of management actions as part of this planning process.

The California Water Fix documents must provide a reasonable assurance that the high quality water in the Sacramento and American Rivers can be maintained. The AMMP must be circulated for public review with adequate time for review, comment, and revision prior to the release of any final BDCP and California Water Fix documents.

Operational Framework is Not Sufficiently Described

The alternatives and sub-alternatives do not have a clearly presented and understandable framework for operation (i.e., rule-set or flow chart describing the approach). While it is understandable that a complex approach is necessary and that it must be "adaptively managed", the range of operational conditions is then widened significantly, and it is not possible to ascertain which assumptions or operational controls could have significant effects. These effects will be more significant in times of scarcity or extreme events, and the document should address environmental protections during all conditions, including drought, floods, and other significant watershed events. For example, page 4.1-7, Table 4.1-2 includes the following description of operations criteria:

December through June: post-pulse bypass flow operations will not exceed Level 1 pumping unless specific criteria have been met to increase to Level 2 or Level 3 as defined in the Section 3.6.4 of the Draft EIR/EIS. If those criteria are met, operations can proceed as defined in Table 3.4.1-2 in the BDCP Public draft. The specific criteria for transitioning between and among pulse protection, Level 1, Level 2, and/or Level 3 operations, will be developed and based on real-time fish monitoring and hydrologic/behavioral cues upstream of and in the Delta. During operations, adjustments are expected to be made to improve water supply and/or migratory conditions for fish by making real-time adjustments to the pumping levels at the north Delta diversions. These adjustments would be managed under Real Time Operations (RTO).

This does not adequately identify how the upstream and Delta "cues" will be interpreted as threshold values requiring action. Under extreme conditions it is not clear that RTO can adequately adjust to meet all demands, especially for biological conditions.

A clear presentation of the operations framework for the California Water Fix with a clear presentation of the expected sensitivity of the system in response to operations for a full range of hydrology and watershed events must be provided, as well as the expected level of error.

Insufficient Inclusion of Local Coordination

The BDCP documents and California Water Fix documents do not adequately address coordination with local agencies in and around the Delta to develop solutions that will meet the Delta Plan co-equal goals and mitigate the impacts from the California Water Fix. The California Water Fix documents provide no assurances that local agency input on adaptive management will be considered through a meaningful process.

Sacramento and the ratepayers it represents, as well as other north-of-Delta agencies, have a significant financial and natural resource stake in the outcomes of the BDCP and California Water Fix. Therefore, local Northern California agencies need to be afforded a more significant role in BDCP and California Water Fix implementation and assessments.

The California Water Fix only refers to monitoring and science necessary to adaptively manage the proposed North Delta diversion along with continued operation of the South Delta diversion. The California Water Fix does not provide details on the governance, participation, intent, and commitment

to funding a collaborative effort. Section ES.4.2 states that "Proponents of the collaborative science and monitoring program will agree to provide or seek additional funding when existing resources are insufficient." The proponents of the BDCP and California Water Fix should provide commitments to funding collaborative science including the Delta RMP and a Delta water quality modeling center. Specifics to these plans and commitments are necessary to have a transparent and effective effort.

While Sacramento appreciates the modification to the BDCP (Appendix D, Substantial BDCP Revisions, page D.3-141, Table 3.6-2) to include the SSQP as a "Potential Partner for the Monitoring and Adaptive Management Program", the role is limited to "Community involvement" and "landowner access", which is not responsive to the local agency concerns nor commensurate with the potential impact of the proposed project on local agencies. The major input opportunity described in the BDCP revisions in the California Water Fix documents appears to be participation in developing the "Decision Trees". However, that participation ends when the North Delta diversion is operational (page D.3-138, lines 7-9), "Unlike the other focus areas, the Decision Trees focus area has a deadline, terminating when the new north Delta diversions become operational."

The Substantial BDCP Revisions (page D.3-85, lines 30-31) also state that "The Adaptive Management Fund will also support changes to conservation measures CM2-21 as determined by the BDCP adaptive management program." If CM19 is implemented or changed, local MS4 agencies should be allowed participation in the process to change and implement conservation measures.

Specific assurances to fund local activities and ensure adequate representation must be built into the BDCP and California Water Fix (Alternative 4A). These assurances should include funding of the Delta RMP, establishing and maintaining a Delta Water Quality Modeling Center, and providing the opportunity for review and input by local agency representation.

A State-funded local agency liaison commission with representation on the adaptive management team to allow adequate adaptive management participation from local agencies upstream of the proposed North Delta diversion should be provided.

5. CM19 IS NOT ADEQUATELY REVISED

The BDCP documents and California Water Fix documents continue to incorporate Conservation Measure 19 (CM19, BDCP Chapter 3.4.19), as it has not been removed through the published changes, list of significant changes, or other discussion. CM19 is included in general discussions of CM2-22 without adequate distinction from the other types of conservation measures.

CM19 Inaccuracies Are Not Corrected

CM19 is described in seven pages of the BDCP documents with little detail, numerous inaccuracies on urban runoff contaminants and water quality regulations, and without any evidence that CM19 control measures could provide any measurable benefits to the covered species. Conservation Measure 19 (BDCP Section 3.4.19) intends to decrease urban runoff contaminant discharge to support BDCP Objective L2.4 to provide water quality to "help restore native fish habitat". However, there is no technical analysis demonstrating the potential benefits of CM19 aside from incomplete descriptions of pyrethroid research in upstream urban tributaries; this research has not demonstrated relevance to impacts on covered species in the Delta. No technical justification is provided for the primary inclusion of urban runoff sources as a conservation measure over all other contaminant stressor sources that are described throughout the BDCP documents but are absent as Conservation Measures. As proposed in the BDCP, CM19 provides no new benefits to downstream covered species. The California Water Fix does not correct these errors and inaccurate characterizations of urban runoff control measures. Without adequate revisions or complete removal of CM19, these errors will persist and propagate in future documents.

CM19 must be specifically removed from the BDCP and California Water Fix unless it is significantly revised with coordination from MS4 agencies and full funding is provided for the long-term implementation costs of CM19.

Inaccurate Grouping of Conservation Measures

The California Water Fix inaccurately draws conclusions for groups of conservation measures by grouping them together without adequate distinction of effects. The California Water Fix continues to refer to CM19 when referring to multiple conservation measures (e.g., CM2-CM22) and never clearly states that CM19 will not be included. In fact, the California Water Fix documents essentially take credit for all future conservation measures, including CM19, without committing to revising these conservation measures to correct inaccuracies and significant flaws. For example, the Executive Summary includes a table with identified impacts, and on numerous occasions includes CM2-CM21 or CM2-CM22, without distinguishing differences or the relative contribution to the evaluated effect from the different conservation measures. For example, Potential Impact WQ-14 (page ES-44) specifies "Effects on mercury concentrations resulting from implementation of CM2-CM22" with "significant and unavoidable" impacts. This implies that CM19 would have a significant impact on mercury concentrations, which is unsupported based on the known negligible relative contribution (0.4%) from urban runoff to Delta methylmercury loading⁹.

The conservation measures must be more accurately grouped when discussed and presented in the context of benefits, impacts, and costs.

6. LACK OF CLARITY OF DOCUMENT, ERRORS, AND OMISSIONS

The complexity of the BDCP and California Water Fix documents results in reduced public transparency and inhibits informed decision-making. The sheer volume of documents for public review is inconsistent with State and Federal environmental review guidelines, reducing the public decision-makers' ability to understand the actions and implications of government decisions with environmental consequences. For example, a transparent and direct statement of the project goals and impacts could be summarized in a much smaller document with well developed visual presentations (see September 14, 2015 comments from ISB). There are well-acknowledged facts that are obfuscated by the volume and complexity of the documents. Many of these facts were noted in previous comments on the BDCP documents; however, to date there has not been any comprehensive response to key comments made by Sacramento and repeated by others during the review period.

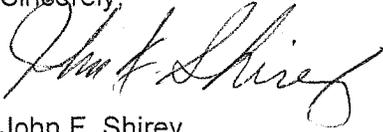
There are a number of cases where the "gaps" between the BDCP documents and California Water Fix documents cannot be evaluated with only "assurances" that future versions and efforts will cover this scope. For example, key issues such as where and how habitat restoration will be effective to achieve BDCP goals, where and how additional flows will be provided for fish habitat improvement, how water supply demand management in the export areas will address the Delta Plan goals, and how and where land, water quality, and biological impacts will be mitigated, are given only casual consideration compared to the presentation of complex operational scenarios. Deferring these major issues and comments to the final documents is a significant omission in the review process and undermines transparency in how the final documents will be composed.

The REIR/SDEIS has numerous technical errors and omissions in its evaluation of the impacts of the Alternatives related to water quality and other issues. Specific comments and references are provided in Attachment A that must be addressed.

⁹ Central Valley Regional Water Quality Control Board. Sacramento – San Joaquin Delta Estuary TMDL for Methylmercury Staff Report. pp 80, Table 6.2 April 2010

If you have any questions please call Jim Peifer, Supervising Engineer at (916) 808-1416.

Sincerely,

A handwritten signature in cursive script, appearing to read "John F. Shirey".

John F. Shirey
City Manager

cc: Mayor and City Council Members

Attachment A - City of Sacramento Specific Comments on California Water Fix Documents
Attachment B - City of Sacramento Comment Letter on the Draft BDCP and BDCP DEIR/EIS

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
ES.1.1	ES-2	1-2	Scope, Alternatives	The ecological problems with the current system could be greatly reduced by the construction and use of new north Delta intake structures with state-of-the-art fish screens.	Construction of south Delta state-of-the-art fish screens should also be evaluated as an alternative, especially if this is the primary ecological benefit of the proposed North Delta diversion project.
ES.1.1	ES-2	2-5	Scope	With this future vision in mind, DWR and several state and federal water contractors, in coordination with Reclamation, have proposed a strategy for restoring ecological functions in the Delta while improving water supply reliability in California.	The section inadequately describes the goals. The discussion should clearly state the other objective of exporting higher quality water from the North Delta.
ES.1.1	ES-2	34-42	Scope, Alternatives	Many commenters argued that, because the proposed project would lead to significant, unavoidable water quality effects, DWR could not obtain various approvals needed for the project to succeed (e.g., approval by the State Water Resources Control Board of new points of diversion for north Delta intakes). Yet others suggested that DWR should pursue a permit term shorter than 50 years due to the levels of uncertainty regarding both the future effects of climate change and the long-term effectiveness of habitat restoration in recovering fish populations. Still other comments suggested that the proposed conveyance facilities should be separated from the habitat restoration components of the BDCP, with the latter to be pursued separately.	The summary of comments does not adequately capture the range of comments and suggestions, such as the "portfolio" approach or smaller North Delta diversions.
ES.1.1	ES-2	34-46	Omission	Many commenters argued that, because the proposed project would lead to significant, unavoidable water quality effects, DWR could not obtain various approvals needed for the project to succeed (e.g., approval by the State Water Resources Control Board of new points of diversion for north Delta intakes). Yet others suggested that DWR should pursue a permit term shorter than 50 years due to the levels of uncertainty regarding both the future effects of climate change and the long-term effectiveness of habitat restoration in recovering fish populations. Still other comments suggested that the proposed conveyance facilities should be separated from the habitat restoration components of the BDCP, with the latter to be pursued separately.	The summary omits the significant comments from us and others, such as USEPA, that an alternative should be proposed that does mitigate all water quality degradation. Please provide response to comments prior to issuance of the final project documentation and allow for a reasonable comment period.

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
ES.1.1	ES-2	43-46	Alternatives, WQ	Consistent with this public input, the Lead Agencies have substantially modified Alternative 4 to reduce its environmental impacts and have formulated new sub-alternatives that would seek incidental take authorization for a period of far less than 50 years, and would include only limited amounts of habitat restoration.	While Alternative 4A does eliminate some sources of impacts (e.g., restoration areas), it also reduces the potential mitigative effects of these conservation measures. The alternative analysis then insufficiently addresses reasonable mitigation, by eliminating these conservation measures to simplify approval of the North Delta diversions.
ES.1.1	ES-3	9-13	Scope, Legal	The three new sub-alternatives (4A, 2D, and 5A) developed by the Lead Agencies embody a different implementation strategy that would not involve a 50-year HCP/NCCP approved under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b) assuming a shorter project implementation period.	Please specify the new ESA Section 7 and CESA Section 2081 (b) incidental take authorizations period of applicability.
ES.1.1	ES-3	31-33	Alternatives, WQ	Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta.	The document insufficiently describes the ability of the project to precisely determine which measures are "needed" for specific compliance purposes. The significant impact of the diversions is not mitigated, nor are the cumulative impacts.
ES.1.2	ES-4	19-22	WQ	<p>This RDEIR/SDEIS has been prepared to provide the public and interested agencies an opportunity to review and comment on revisions and additional information added to the Draft EIR/EIS that was circulated for public review on Dec 13, 2013. Key revisions are listed below.</p> <ul style="list-style-type: none"> Updated environmental analysis that addresses certain issues raised in the more than 12,000 comments received on the Draft EIR/EIS. One example of such updated analysis is an updated discussion of Water Quality effects, which have been reduced compared with how they were described in the Draft EIR/EIS. 	<p>Characterizing the changes as "reductions" in water quality impacts is misleading because 1) some changes were computational and do not actually indicate that real impacts have been reduced, 2) many minor changes do not necessarily mean that the project as a whole will have a minor impact, rather than a major one, on water quality at many locations, and 3) the removal of the restoration areas accounts for many of these changes, especially those where there is uncertainty in the water quality projections. While removing the restoration areas may reduce water quality impacts for some constituents, their removal also takes away all the benefits they provide for habitat and water quality. It is recommended that this statement more clearly states that water quality effects from CM-1 are not changed, but the removal of some of the other conservation measures and modeling refinements provide benefits for some constituents.</p>

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
ES.1.2.2.3	ES-7	2-6	Alternatives, WQ	The anticipated effects of climate change will result in elevated sea levels, altered hydrological cycles, changed salinity and water temperatures in and around the Delta, and accelerated shifts in species composition and distribution. These changes add to the difficulty of resolving the conflicts in the Delta. Anticipating, preparing for, and adapting to these changes are key underlying drivers for the proposed project.	The proposed approach and modifications to Alternative 4 suggest that management of the conveyances can resolve or substantially mitigate the effect of diversions. However, this assessment inadequately evaluates the benefits of demand management, which is required by the Delta Plan.
ES.1.2.4	ES-8	7-10	Omission	BDCP CM2, which would consist of proposed Yolo bypass improvements and approximately 8,000 acres of tidal habitat restoration, is not included in the new sub-alternatives; instead, these components of CM2 are assumed to occur independently of the sub-alternatives in a revised No Action Alternative.	This implies that CM2 and its associated project components will be completed and have been considered in the NAA outputs. This should be confirmed along with the ELT, similar to the new alternatives, to reflect the shorter period of the new take authorization term.
ES.1.3	ES-9	25-27	Alternatives, WQ	Range of Alternatives. The range and adequacy of alternatives is an issue of concern to the public as well as to governmental agencies. In response, the RDEIR/SDEIS proposes three new sub-alternatives.	There are a number of suggested alternatives as mentioned in similar comments that have not been adequately addressed. The summary omits the significant comments from us and others, such as USEPA, that an alternative should be proposed that does mitigate all water quality degradation. The limited number of alternatives evaluated provides a biased evaluation of potential project impacts. Please provide response to comments prior to issuance of the final project documentation and allow for a reasonable comment period.
ES.1.3	ES-9	25-27	Alternatives	Range of Alternatives. The range and adequacy of alternatives is an issue of concern to the public as well as to governmental agencies. In response, the RDEIR/SDEIS proposes three new sub-alternatives.	The new "sub-alternatives" do not adequately address the requested range of alternatives.
ES.1.3	ES-9	30-32	Alternatives, WQ	Separating the water conveyance plan from the HCP/NCCP and accelerating environmental restoration through EcoRestore may alleviate some of these concerns.	The revised alternatives do not provide assurances of effective restoration or protection for covered species. There are no suggested alternatives that would mitigate water quality degradation, as requested by the USEPA and from our review.

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Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
ES.1.3	ES-10	8-12	Scope, Omission	Water quality is an issue of concern because of uncertainties regarding activities associated with conveyance facilities and restored habitat that could lead to discharge of sediment, possible changes in salinity patterns, and water quality changes that could result from modifications to existing flow regimes. This RDEIR/SDEIS in Section 4 addresses all of these water supply, surface water and water quality issues.	This is another example of a summary conclusion where antidegradation, water quality impacts and reasonable mitigation, among other significant comments from our review and USEPA, are not adequately discussed or identified as issues that will be addressed. The statement that water quality impacts are adequately addressed is not supported by revisions to Section 4.
ES.1.5	ES-13	17-21	Scope	Plan Area and Study Area. The terms Plan Area and Study Area are still applied to the impact analysis of Alternatives 4A, 2D, and 5A and all associated figures, tables, etc., since the activities pursued under these alternatives would take place in the same geographical area as the Plan Area; and the potential impacts would still occur in what was defined as the Study Area in the Draft EIR/EIS.	Previous comments submitted as a result of our review requested additional clarification of the inclusion of upstream watershed areas in both the Plan Area and Study Area. The document does not adequately resolve the uncertainty and dependence on difficult-to-interpret maps for these upstream areas.
ES.1.6	ES-14	12-16	Clarity	New public comments made during the public review period for the RDEIR/SDEIS should be specific only to the newly circulated information contained in the RDEIR/SDEIS and should not address issues not directly included in the RDEIR/SDEIS. The Lead Agencies intend to only respond to comments that address analysis included within this RDEIR/SDEIS and not those related solely to the original Draft EIR/EIS.	The complexity of the project and reliance on BDCP and associated DEIR/DEIS documents makes it impossible to limit comments solely to "information contained in the RDEIR/SDEIS". Moreover, because the response to comments is not available, it is not clear whether previously commented issues have been adequately addressed. As presented, the documents inadequately represent the current proposed project.
ES.3.2	ES-25	33-35	WQ, Omission	Section 2.2, Water Quality Revisions, of this RDEIR/SDEIS describes additional analyses undertaken to more accurately characterize the potential for exceedances of water quality standards and summarizes associated...	The documents do not adequately address consistency with water quality regulation, including the Federal and State Antidegradation Policy.

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
ES.3.2.2	ES-28	36-40	WQ	Because of the combined effects of increased temperatures due to climate change (not related to the project alternatives) and increased residence times in the Delta (due primarily to the effects of the conveyance facility and tidal restoration), effects of project alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9 on Microcystis were considered adverse (under NEPA) and significant and unavoidable (under CEQA).	As noted in the comments on the revised Chapter 8, we have concerns about the potential of the revised reservoir operations to impact the hydrodynamic conditions in the rivers upstream of the Delta, which may contribute to algal growth due to increased temperatures. We request that this be reviewed and reconsidered.
ES.4.2	ES-37	29-39	AM, WQ	Collaborative science and adaptive management will support the proposed project by helping to address scientific uncertainty where it exists, and as it relates to the benefits and impacts of the construction and operations of the new water conveyance facility and existing CVP and SWP facilities. Specifically, collaborative science and adaptive management will, as appropriate, develop and use new information and insight gained during the course of project construction and operation to inform and improve: <ul style="list-style-type: none"> the design of fish facilities including the intake fish screens; the operation of the water conveyance facilities under the Section 7 biological opinion and 2081(b) permit; and habitat restoration and other mitigation measures conducted under the biological opinions and 2081(b) permits. 	The Adaptive Management and Monitoring Plan (AMMP) scope does not adequately address water quality impacts for all beneficial uses or ecological protection for the Delta and upstream watershed. The AMMP scope should be determined by a wide stakeholder group that includes local agencies to more transparently set goals consistent with the Delta Plan and other regulations.
ES.5	ES-43	Table ES-9	WQ, Omission	Table ES-9. Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures Water Quality Potential Impact: WQ-7: Effects on chloride concentrations resulting from facilities operations and maintenance (CMI)	Chloride and salinity would tend to increase in the vicinity of the North Delta intakes, and there are other localized effects that may be significant. The analysis does not adequately evaluate these effects.

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
ES.5	ES-44	Table ES-9, multiple entries	CM19	<p>Table ES-9. Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures Water Quality</p> <p>Potential Impact: WQ-14: Effects on mercury concentrations resulting from implementation of CM2–CM22</p> <p>Alternatives: 2D, 4, 4A, 5A</p> <p>Impact Conclusions Before Mitigation (CEQA): Significant (S)</p> <p>Proposed Mitigation (CEQA and NEPA): No available mitigation to address this impact</p> <p>Impact After Mitigation: Significant and Unavoidable (CEQA) as well as Adverse (NEPA)</p>	<p>It is a broad and inaccurate generalization to assume that the effects from CM19 will have significant and unavoidable impacts on mercury concentrations. There is no evidence suggesting that stormwater controls generate methylmercury or increase total mercury concentrations. This table is confusing when referencing CM2-CM22 and option 4A is included. This implies that CM19 may be added to Option 4A later, which is not justified.</p>
ES.5	ES-44	Table ES-9	CM19, Clarity	<p>Table ES-9. Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures Water Quality</p> <p>Potential Impact: WQ-12: Effects on electrical conductivity concentrations resulting from implementation of CM2–CM22</p>	<p>There are numerous cases in the table where CM2-CM22 are grouped together for a combined effect. While this is convenient for presentation, it inaccurately implies that these conservation measures act in the same way.</p>
ES.5	ES-44	Table ES-9	CM19	<p>Table ES-9. Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures Water Quality</p> <p>Potential Impact: WQ-14: Effects on mercury concentrations resulting from implementation of CM2–CM22</p> <p>Alternatives: 2D, 4, 4A, 5A</p> <p>Impact Conclusions Before Mitigation (CEQA): Significant (S)</p> <p>Proposed Mitigation (CEQA and NEPA): No available mitigation to address this impact</p> <p>Impact After Mitigation: Significant and Unavoidable (CEQA) as well as Adverse (NEPA)</p>	<p>CM19 would not cause significant and unavoidable impacts based on methylmercury. The analysis inaccurately presents CM19 as generating methylmercury, when many studies have demonstrated the benefit of stormwater controls in reducing methylmercury.</p>

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
ES.5	ES-45	Table ES-9	WQ, Alternatives	<p>WQ-32: Effects on Microcystis Bloom Formation Resulting from Facilities Operations and Maintenance (CM1).</p> <p>Before Mitigation: 1A-2C, 3, 4, 5, 6A-9 - Significant (S) 2D, 4A, 5A - Less Than Significant (LTS).</p> <p>Proposed mitigation: WQ-32a: Design Restoration Sites to Reduce Potential for Increased Microcystis Blooms WQ-32b: Investigate and Implement Operational Measures to Manage Water Residence Time</p>	<p>Both ALT 4 and ALT 4A would lead to increased residence time, and the ALT 4A finding of LTS before mitigation is not justified. Moreover, the proposed mitigation measures for both cases rely on operational plans that are not provided for evaluation and may not be effective. A more detailed operational plan should be provided that also includes a discussion of operation changes if algal blooms or macrophyte growth threaten any beneficial uses due to the residence time increase. Please provide this more detailed operation plan specific to this mitigation for review prior to issuance of the final CA Water Fix documents.</p>
ES.5	ES-45	Table ES-9	CM19, WQ	<p>Table ES-9. Summary of BDCP/California WaterFix RDEIR/SDEIS Impacts and Mitigation Measures Water Quality</p> <p>Potential Impact: WQ-33: Effects on Microcystis Bloom Formation Resulting from Other Conservation Measures (CM2–CM21).</p>	<p>CM19 was not demonstrated to cause significant and unavoidable impacts based on microcystis. Moreover, the increased residence time expected due to CM1 and Alternative 4A would be expected to increase the occurrence of microcystis.</p>
ES.5	ES-54	Table ES-9	WQ, Alternatives	<p>AQUA-78: Effects of water operations on migration conditions for Chinook salmon (fall-/late fall–run ESU); Proposed Mitigation: AQUA-78D: Slightly adjust the timing and magnitude of Shasta, Folsom, and/or Oroville Reservoir releases, within all existing regulations and requirements, to ameliorate changes in instream, slows that would cause an adverse effect to fall-run Chinook salmon.</p> <p>Significant (S) effect before mitigation, less than significant (LTS) effect after mitigation for ALT 4 and ALT 4A</p>	<p>There is no demonstration that the suggested mitigation (AQUA-78) related to "slight" adjustments in reservoirs release will be sufficient. There exist so many release and flow requirements that it does not seem reasonable that there would be enough flexibility to manage salmon migration in all critical years. Moreover, if "slight" modifications can have such a sufficient effect to mitigate impacts, it is reasonable to assume that "slight" modifications can also have negative effects on migration. Given the amount of uncertainty included in the analysis of this mitigation measure, there is no assurance that "high resolution" management is possible or certain to be effective. Please develop sufficient evaluation and technical justification for the LTS finding after mitigation for any of these species where "slight" adjustments are primary mitigation.</p>

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
ES.5	ES-103	Table ES-9	WQ, Alternatives	PH-2: Exceedances of water quality criteria for constituents of concern such that there is an adverse effect on public health as a result of operation of the water conveyance facilities. Proposed Mitigation: WQ-5: Avoid, minimize, or offset, as feasible, adverse water quality conditions. Impact After Mitigation: LTS (for ALT4A) and SU (for ALT4).	There is no provided analysis that demonstrates that the proposed mitigation measure can reduce the number of EC exceedances below the Existing Conditions or NAA for Alternative 4A. Additional mitigation should be provided and assessed or the finding should be changed to significant.
ES.5	ES-103	Table ES-9	WQ, Alternatives	PH-8: Increase in Microcystis Bloom Formation as a Result of Operation of the Water Conveyance Facilities. Proposed Mitigation: WQ-32a: Design Restoration Sites to Reduce Potential for Increased Microcystis Blooms. WQ-32b: Investigate and Implement Operational Measures to Manage Water Residence Time.	No assurances are provided that operational measures will be effective. Reasonable mitigation, including remediative actions when a bloom threatens recreational, aquatic life, or water supply beneficial uses, should be developed and evaluated. An evaluation of the potential conditions upstream of the North Delta intake should be provided.
1.4	1-34	3-5	Clarity	The Lead Agencies have identified a number of additional issues raised in public and technical review of the Draft EIR/EIS that do not warrant inclusion in the RDEIR/SDEIS but would be explained or addressed in the Final EIR/EIS revisions.	We continue to support our comments made on the DEIR/DEIS and the BDCP, as applicable. As a result of not receiving response to comments, it is difficult to prepare these comments, and the revision process becomes overly complicated.
2.1.2	2-2	6-11	Alternatives, WQ	Chapter 11, Fish and Aquatic Resources, of the Draft EIR/EIS included a description of the potential changes in sediment loading as a result of the creation of new points of diversion under Alternatives 1A through 8. This analysis was used to inform the impacts related to turbidity (water clarity) for delta and longfin smelt. In summary, these impacts were deemed to be less than significant/not adverse because there would be less than a 10% change in sediment loading and because restoration actions could serve to increase turbidity in some areas.	Re-evaluation of sediment loading is needed to evaluate the cumulative effects of the new Alternatives and associated restoration actions.

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
2.2	2-5	34-36	WQ, ALT	The three new alternatives are also very similar to each other, but from a water quality perspective, are fundamentally different than the Alternatives evaluated in Chapter 8 that are discussed above, in that they contain substantially less tidal restoration acreage.	Since the majority of tidal restoration acreage proposed in the BDCP was located in the Delta, it is only in the Delta area that there has been a significant change in the alternatives. Water quality impacts to upstream areas are not affected significantly by the reduction in tidal restoration acreage. The operational alternatives include modifications to reservoir operations resulting in impacts to water quality upstream of the Delta. Please consider upstream impacts and water quality in identification and quantifications of impacts.
2.2.4	2-13	39-43	WQ, Omission	It is not expected that the level of tidal restoration proposed under Alternatives 2D, 4A, and 5A would cause fish tissue concentrations to increase, at a measurable level, outside of the immediate localized area of the tidal restoration sites. However, habitat restoration has the potential to increase water residence times and increase accumulation of organic sediments that are known to enhance methylmercury bioaccumulation in biota in the vicinity of the restored habitat areas.	Please provide the justification that methylmercury bioaccumulation would not expand the scope of impacts outside of localized areas.
2.2.4	2-14	1-7 and 17-20	WQ, Omission	Fish tissue concentrations in the Delta already frequently exceed the Water Quality Control Plan (Basin 1 Plan) for the Sacramento River and San Joaquin River Basins objective of 0.24 mg/kg for trophic level 4 fish in the Delta. The proposed tidal restoration may cause or contribute to increased fish tissue concentrations at a local level, though the magnitude of the increase is not quantifiable. The Basin Plan also includes methylmercury allocations for wetlands for various areas of the Delta. Because the proposed tidal restoration acreage is very small, it is possible that, relative to the allocations, the increased loading would be very small. However, it is still unknown how and if the allocations can be attained....Although this would constitute a potential environmental impact, these increases would not be expected to cause injury to downstream water rights holders or other downstream water users, because effects would be localized to the restoration sites. Nor would such localized impacts adversely affect any other downstream beneficial users.	This is another example of a summary conclusion where antidegradation and water quality impacts, among other significant comments from our review and USEPA, are not adequately discussed or identified as issues that will be addressed. Additionally, the proposed project(s) should also be considered in the Delta Methylmercury TMDL. The California Water Fix documents fail to provide an assessment of how the proposed project(s) would be consistent with the Delta Methylmercury TMDL if there is any potential to increase fish tissue concentrations in the Delta or to not meet the required Delta area reductions.

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2.2.5	2-14	27-31	WQ	Due to the combined effects of increased temperatures due to climate change (not related to the project) and increased residence times in the Delta (due primarily to the project related effects of CM1 and CM4), effects of project alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9 on Microcystis were considered adverse (under NEPA) and significant and unavoidable (under CEQA).	As noted in the comments on the revised Chapter 8, the potential of the revised reservoir operations to impact the hydrodynamic conditions in the rivers upstream of the Delta, which may contribute to algal growth due to increased temperatures, needs to be addressed.
2.2.5	2-14	33-36	WQ, Alternatives, Error	Because the new alternatives (2D, 4A, and 5A) contain a lower acreage of tidal restoration, residence times are not expected to increase as substantially as under the other alternatives, and thus significant impacts with regards to Microcystis are not expected under these alternatives, relative to the No Action Alternative.	Alternative 4A does increase residence times and would likely result in microcystis occurrences in a number of locations. Please reevaluate and address this concern.
2.2.9	2-16	7-12	WQ, Omission	Several minor, miscellaneous revisions and updates that do not fall into the categories above were also made. Regarding the Trace Metals assessment, although aluminum was mentioned in the Screening Analysis (Appendix 8C) as being included in the Trace Metals assessment, it was inadvertently omitted. Additional discussion of aluminum (as well as of iron and manganese) was therefore added to Affected Environment and additional assessment of aluminum was conducted.	Please address the remaining drinking water constituents that were not considered and were identified in our previous comments on the BDCP documents.
2.4	2-21	14-17	Alternatives, CM19	The RDEIR/SDEIS includes a number of revisions to the project description and an enhanced level of detail for Alternative 4. These include more explanation regarding the analysis of water conveyance facilities, updates to CM2–CM21, clarification on the role of the Bureau of Reclamation, and the use of CM3–CM11 to offset impacts related to CM1.	There is an inadequate discussion of how individual conservation measures and the groups of conservation measures address specific mitigation needs. Please clarify the relative role of individual conservation measures in addressing impacts.
3.1	3-1		Alternatives	Section 3: Conveyance Facility Modifications to Alternative 4	Section 3 does not adequately characterize the removal of conservation measures. The section should be modified to accurately reflect that changes to Alternative 4 are more than just physical changes to the diversion structure.

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3.3.5	3-7	4-7	WQ	Chapter 8, Water Quality, of the Draft EIR/EIS was revised to describe the potential for water quality effects associated with construction of water conveyance facilities—such as those related to discharges from work sites or changes to stormwater drainage and runoff patterns—to occur in different locations as a result of the revised facility footprints.	The water quality evaluation does not adequately address water quality impacts upstream of the proposed North Delta intakes or identify reasonable mitigation measures to address upstream impacts.
4	<i>entire section</i>		Omission		Since much of the text in Section 4 refers back to the DEIR/DEIS and the RDEIR/SDEIS, we reference the same comments we have previously made and are currently making on these documents.
4	<i>entire section</i>		Alternatives	Omission	To evaluate water quality degradation, it is necessary to consider an alternative where there are no exported diversions.
4	<i>entire section</i>		Alternatives	Omission	To evaluate water quality degradation, it is necessary to consider an alternative where there are no exported diversions, at the point in time when the previous antidegradation analysis was performed, or at the point when antidegradation considerations became a requirement.
4.1.1	4.1-3	17-19	Omission, Clarity	NEPA and its implementing regulations specifically require federal officials to consider the recommendations of other government entities and the public who present reasonable solutions or alternative approaches that may improve a proposed action.	We, as well as many others, previously submitted suggested alternative approaches including more distributed portfolio approaches, but have not been advised of whether the “reasonable solutions” were addressed or incorporated.
4.1.2.1	4.1-4	14-15 and Table 4.1-1	WQ, Clarity	Table 4.4-1 provides a brief summary comparison of the elements between Alternatives 4A and 4.	The justification for the relevant regulatory descriptions is not clear within the section and should be provided. In particular, the removal of the Section 10 element does not seem appropriate. While the summary is appreciated, it is not comprehensive in evaluating water quality impacts and relevant requirements of the Clean Water Act and federal and state Antidegradation Policy elements. The baseline for any Antidegradation analysis should also be included.

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4.1.2.2	4.1-7	Table 4.1-2	Clarity, Scope	December through June: post-pulse bypass flow operations will not exceed Level 1 pumping unless specific criteria have been met to increase to Level 2 or Level 3 as defined in the Section 3.6.4 of the Draft EIR/EIS. If those criteria are met, operations can proceed as defined in Table 3.4.1-2 in the BDCP Public draft. The specific criteria for transitioning between and among pulse protection, Level 1, Level 2, and/or Level 3 operations, will be developed and based on real-time fish monitoring and hydrologic/behavioral cues upstream of and in the Delta. During operations, adjustments are expected to be made to improve water supply and/or migratory conditions for fish by making real-time adjustments to the pumping levels at the north Delta diversions. These adjustments would be managed under Real Time Operations (RTO).	Please provide additional details on the pumping criteria and thresholds based on "hydrologic/behavioral cues upstream of and in the Delta".
4.1.2.2	4.1-13	17-25	AM	RTO Team decisions are expected to be needed during at least some part of the year at the Head of Old River gate and the north and south Delta diversion facilities. The RTO Team in making operational decisions that depart from the criteria used in the modeling will take into account upstream operational constraints, such as coldwater pool management, instream flow, and temperature requirements. The extent to which real time adjustments that may be made to each parameter related to these facilities shall be limited by the criteria and/or ranges is set out in Table 4.1-2. Any modifications to the parameters subject to real time operational adjustments or to the criteria and/or ranges set out in Table 4.1-2 shall occur only through the adaptive management, as discussed below.	The AMMP should be developed more fully so that the process to make the suggested changes can be adequately reviewed.

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4.1.2.3	4.1-14	22-24	Alternatives, Omission, Water Quality	As noted, these Environmental Commitments are actions primarily intended to satisfy CEQA, CESA Section 2081, and ESA Section 7.	The selection process for these environmental commitments has not been presented. A summary of specific benefits and the process for identifying these actions should be transparent. Consideration of a wider range of actions that specifically mitigate the removal of the higher quality North Delta water is necessary to adequately evaluate mitigation for the purposes of CEQA, NEPA, and antidegradation. Specifically, it is not clear why other actions such as South Delta intake screens are not considered. Previous suggestions by others to evaluate a portfolio approach to the project could be incorporated in this way so that a wide range of actions is better understood and available for adaptive management. Please evaluate a broader range of alternatives and provide justification for not evaluating the other reasonable alternatives that have been suggested.
4.1.2.3	4.1-15	1-4	Alternatives, WQ, Omission	The RDEIR/SDEIS describes and analyzes Environmental Commitments 3, 4, 6-12, 15, and 16 at a level of detail consistent with that applied to these activities under other alternatives in the Draft EIR/EIS. (See CEQA Guidelines, § 15126.4[a][1][D] [EIRs must discuss significant effects of mitigation measures, “but in less detail than the significant effects of the project as proposed”];	Please provide additional details for all alternatives on upstream water quality. This has been omitted from the analysis.

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4.1.2.4	4.1-18	36-40	AM	In summary, the broad purposes of the program will be to: 1) undertake collaborative science, 2) guide the development and implementation of scientific investigations and monitoring for both permit compliance and adaptive management, and 3) apply new information and insights to management decisions and actions.	The specific purposes are too general and lack a clear means to evaluate the effectiveness. The collaborative science program does not include a diverse group of members, and it resembles the current approach to management. While greater participation from the Independent Science Panel (ISP) is an improvement, alternative structures should be considered to improve the focus of the science to develop solutions to water quality impacts created by the diversion of water. The RDEIR/SDEIS should include a discussion of the specific tasks and tools that will be developed. These tools should be available to a wide range of stakeholders to improve broad-based collaborative science and coordination. The collaborative science approach should be inclusive at the "base" where the science is performed as well as at the "top" where the ISP provides review and direction.
4.1.2.4	4.1-20	28-32	AM	Collaborative science and monitoring conducted to support the proposed project will be implemented, when feasible, using existing resources from state, federal, and other programs, and the mitigation program of the water conveyance facility. The mitigation program of the water conveyance facility has money dedicated to the monitoring necessary to support effective implementation of mitigation actions.	The project proponents should provide funding guarantees to address collaborative science relative to the overall health of the Delta. Because there is "uncertainty" in many of the effects from the project on other stakeholders, the project proponents should also develop a specific list of tools and activities that will be performed (e.g., Delta water quality model) so that the uncertainty of the proposed adaptive management does not persist. These tools should be developed so that all stakeholders have access and peer review to the data and model elements.
4.1.2.4	4.1-21	11-14	AM	Adaptive management uses a process to clearly articulate objectives, identify management alternatives, predict management consequences, recognize key uncertainties in advance, and monitor and evaluate outcomes.	While the general objectives and discussion of scientifically based adaptive management is appropriate, there are no provisions for accountability for additional Delta water quality and ecosystem degradation. Any proposed project in the BDCP, California Water Fix, or EcoRestore should state the specific goals that are consistent with the relevant biological opinions and water quality law.

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4.2.4	4.2-3	6-7	Omission, WQ	Under the No Action Alternative, the facilities and operations of the SWP and CVP would continue to be similar to Existing Conditions with the following changes....	Revisions to Chapter 5 Appendices in the RDEIR/SDEIS are unclear so it does not appear that any climate change adaptation and mitigation activities for the SWP/CVP were included. DWR has stated that they will operate the system as required to meet downstream objectives so it is highly likely that system operations will be modified in the future; this should have been included in the NAA.
4.2.4	4.2-3	22	Omission	New urban intake/Delta export facilities:	This list should be expanded to include the new Woodland-Davis Clean Water Agency intake structure which is located on the Sacramento River, upstream of the confluence with the American River. The new intake structure is currently under construction and is expected to be operational in 2016.
4.2.4	4.2-4	32-37	Omission, WQ	Adaption measures would need to be implemented on upstream operations to manage coldwater pool storage levels under future sea level rise and climate change conditions. As described in the methods section of Chapter 5, Water Supply, in the Draft EIR/EIS, model results when storages are at or near dead pool may not be representative of actual future conditions because changes in assumed operations may be implemented to avoid these conditions.	DWR is currently planning Climate Change Adaptation and Mitigation strategies in their operational programs, as is the USBR and USACE. These were not included in the modeling and, therefore, results likely overestimate the no action alternative, potentially making the impacts of CA Water Fix seem less. These evaluations should be reconsidered with some reasonable assumptions for mitigation.
4.2.5	4.2-12		Omission, WQ	Surface Water	The assumptions for surface water under the NAA ELT should include the Folsom Dam Safety and Flood Damage Reduction Project as well as the DWR Reoperation Study as those are expected to be operational by 2025 and will involve revised operations of upstream reservoirs.
4.2.5	4.2-12	31	Omission, WQ	New urban intake/Delta export facilities:	This list should be expanded to include the new Woodland-Davis Clean Water Agency intake structure which is located on the Sacramento River, upstream of the confluence with the American River. The new intake structure is currently under construction and is expected to be operational in 2016.

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4.2.5	4.2-12	31	Omission, WQ	New urban intake/Delta export facilities:	This list should be expanded to include the new Woodland-Davis Clean Water Agency intake structure which is located on the Sacramento River, upstream of the confluence with the American River. The new intake structure is currently under construction and is expected to be operational in 2016.
4.2.7	4.2-18	38	WQ	Water Quality	The water quality evaluation for the NAA ELT for many constituents is stated as similar to the NAA LLT. We would like to reference our applicable previous comments on the NAA LLT in the DEIR/DEIS, specifically those in Chapter 8 (8.4.3). We are concerned about the continued lack of water quality evaluations for areas upstream of the Delta.
4.2.7	4.2-18,19	39-41, 1-3	WQ	The analysis of effects of the No Action Alternative (ELT) on boron, bromide, chloride, DOC, EC, and nitrate in the Delta and SWP/CVP Export Service Areas is based on modeling conducted for the No Action Alternative in the ELT, which assumed no implementation of Yolo Bypass improvements or tidal habitat restoration. However, as described in Section 4.1.6, Assumptions for Purpose of Analysis, of the RDEIR/SDEIS, enhancements to the Yolo Bypass and 8,000 acres of tidal habitat restoration areas would be developed under the No Action Alternative (ELT).	The use of existing model runs to approximate impacts to revised alternatives does not seem to be sufficient for comparison of alternatives, determination of impact analysis, and identification of required mitigation. These numeric approximations lack computational rigor sufficient for quantitative assessments. The analysis inadequately makes quantitative assessments and should be expanded to consider computational modeling of the target constituents.

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4.2.7	4.2-44	14-22	WQ	The effects of the No Action Alternative (ELT) on Microcystis levels, and thus microcystin concentrations, in surface waters upstream of the Delta relative to Existing Conditions would be similar to those described for the No Action Alternative in Chapter 8, Water Quality, Section 8.3.3.1 of the Draft EIR/EIS. This is because factors that would affect Microcystis levels in these areas would be the same in the ELT and the LLT. In the rivers and streams of the Sacramento River watershed, watersheds of the eastern tributaries (Cosumnes, Mokelumne, and Calaveras Rivers), and the San Joaquin River upstream of the Delta, under Existing Conditions, bloom development is limited by high water velocity and low residence times. These conditions are not expected to change under the No Action Alternative (ELT).	The Draft EIR/EIS does not discuss Microcystis in detail. The areas upstream of the Delta have not been adequately assessed for potential impacts due to changing hydrodynamic and temperature impacts. We request that this be reevaluated.
4.2.24	4.2-67	20-22	Alternative, WQ	The effects of the No Action Alternative (ELT) as considered for the purposes of Alternatives 4A, 2D, and 5A would be expected to be similar to those effects described for the No Action Alternative (LLT) in Chapter 25, Public Health, Section 25.3.3.1 of the Draft EIR/EIS.	Since the effects of the NAA ELT are stated as similar to those for the NAA LLT in the DEIR/DEIS, we reference our applicable previous comments on Chapter 25.
4.2.24	4.2-67	39-42	WQ	Any modified reservoir operations under the No Action Alternative (ELT) are not expected to promote Microcystis production upstream of the Delta since large reservoirs upstream of the Delta are typically low in nutrient concentrations and phytoplankton outcompete cyanobacteria, including Microcystis.	The potential impacts to areas upstream of the Delta have been inadequately assessed with regard to potential for Microcystis growth.
4.2.24	4.2-70	9-13	WQ	Because it is possible that under the No Action Alternative (ELT) increases in the frequency, magnitude, and geographic extent of Microcystis blooms in the Delta would occur due to increased water temperatures associated with climate change, as well as increased water residence times related to restoration activities, long-term water quality degradation may occur in the Delta and water exported from the Delta to the SWP/CVP Export Service Areas.	The potential for increases in Microcystis blooms in the areas upstream of the Delta should be investigated further.

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4.3.1.1	4.3.1-3	1-4	WQ	A comparison with storages under the No Action Alternative provides an indication of the potential change due to Alternative 4A and the results show that average annual end of September Shasta Lake storage could remain similar or decrease under Alternative 4A as compared to the conditions without the project.	The North Delta intakes would decrease storage compared to the NAA and existing conditions, which would have an impact on the downstream water quality. The document does not adequately evaluate these impacts and should be revised.
4.3.4	4.3.4-1	1	WQ	Water Quality	The water quality evaluation for Alternative 4A ELT for many constituents is stated as similar to Alternative 4 LLT for areas upstream of the Delta. We would like to reference our applicable previous comments on Alternative 4 LLT in the DEIR/DEIS, specifically those in Chapter 8 (8.4.3). We continue to request water quality evaluations for areas upstream of the Delta.
4.3.4	4.3.4-24	15-18	WQ	Modeling results indicated that the Emmaton EC objective would be exceeded more often under Alternative 4A than under Existing Conditions and the No Action Alternative (ELT), and that increases in EC could cause substantial water quality degradation in summer months of dry and critical water years.	This is indicative of the significant impact that is not mitigated, and is the site closest to the upstream areas that are of concern to the City. The document does not adequately address upstream impacts and should be revised.
4.3.4	4.3.4-66	21-31	WQ	Adverse effects from Microcystis upstream of the Delta have only been documented in lakes such as Clear Lake, where eutrophic levels of nutrients give cyanobacteria a competitive advantage over other phytoplankton during the bloom season. Large reservoirs upstream of the Delta are typically characterized by low nutrient concentrations, where other phytoplankton outcompete cyanobacteria, including Microcystis. In the rivers and streams of the Sacramento River watershed, watersheds of the eastern tributaries (Cosumnes, Mokelumne, and Calaveras Rivers), and the San Joaquin River upstream of the Delta under Existing Conditions, bloom development is limited by high water velocity and low residence times. These conditions are not expected to change under Alternative 4A or the No Action Alternative (ELT and LLT). Consequently, any modified reservoir operations under Alternative 4A are not expected to promote Microcystis production upstream of the Delta, relative to Existing Conditions and the No Action Alternative (ELT and LLT).	The potential impacts to areas upstream of the Delta have been inadequately assessed with regard to potential for Microcystis growth, and should be evaluated in more detail.

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4.3.7, ES.5	4.3.7-372, ES-59	Entire page: Table ES-9	Alternatives	AQUA-201: Effects of water operations on entrainment of noncovered aquatic species of primary management concern; No proposed mitigation	There are significant and unavoidable findings for striped bass and American shad. There are adverse effects on striped bass. According to Table ES-9, it appears that no mitigation may be planned. However, improved screening operations in the South Delta diversion could provide benefit and mitigation of new losses in the North Delta and should be evaluated.
4.3.11, ES.5	4.3.11-1, ES-83	Entire page: Table ES-9	Alternatives	REC-2: Result in long-term reduction of recreation opportunities and experiences as a result of constructing the proposed water conveyance facilities; Proposed Mitigation: REC-2: Provide alternative bank fishing access sites BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible Impact Conclusions Before Mitigation: Significant (S) Impact After Mitigation: Significant and Unavoidable (SU) and Less Than Significant (LTS)	The long term adverse effects and significant and unavoidable reduction of recreation opportunities could be mitigated with more extensive alternate bank fishing locations or modification to intake design that should be considered. Additional mitigation measures should be proposed for full mitigation.
4.3.21	4.3.21-2	1-3	WQ	Impact PH-2: Exceedances of Water Quality Criteria for Constituents of Concern Such That There Is an Adverse Effect on Public Health as a Result of Operation of the Water Conveyance Facilities	All of the NEPA and CEQA evaluations done in this section focus only in the Delta sources and do not consider areas upstream of the Delta. The discussions should include the potential for upstream impacts.

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4.3.21	4.3.21-9	34-41	WQ	NEPA Effects: Any modified reservoir operations under Alternative 4A are not expected to promote Microcystis production upstream of the Delta relative to the No Action Alternative (ELT and LLT) since large reservoirs upstream of the Delta are typically low in nutrient concentrations and phytoplankton outcompete cyanobacteria, including Microcystis. Further, in the rivers and streams of the Sacramento River watershed, watersheds of the eastern tributaries (Cosumnes, Mokelumne, and Calaveras Rivers), and the San Joaquin River upstream of the Delta, bloom development would be limited by high water velocity and low hydraulic residence times. These conditions would not be expected to change under Alternative 4A relative to the No Action Alternative (ELT and LLT)	The potential impacts to areas upstream of the Delta have been inadequately assessed with regard to potential for Microcystis growth, and should be evaluated in more detail.
4.3.25	4.3.25-9	7-13	AMM, WQ	DWR's modeling of future conditions suggests that with current management and operations, level of demand, and current climate, major CVP and SWP reservoirs could reach dead storage levels (the level below which water cannot be released) and that the likelihood of these critical conditions will increase substantially as the climate warms. In these instances, there would be critical water shortages leading to potentially extreme impacts on agriculture, municipal, industrial, and ecological water uses.	The evaluation of future climate change impacts does not include any adaptation and mitigation strategies implemented by DWR, but it is highly likely that these will be implemented in the future. The evaluation should be revised to incorporate these strategies.
5.1	5-1	7-9	Scope, Alternatives, WQ	"Cumulatively considerable" means that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (CEQA Guidelines, § 15065[a][3]).	The analysis does not adequately incorporate the cumulative effect of historic diversions and exports out of the Delta. Moreover, the scope of CMI is not adequately incorporated into the cumulative impact analysis so as to identify where "tipping points" of impacts may occur, such as the continued decline of covered species. If these types of outcomes are not addressed through the most significant impact, the effects are effectively segmented and not adequately identified.

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5.1.2.2	5-3	21-24	Scope	California EcoRestore will be led by the Delta Conservancy as the lead state agency, and will accelerate and implement a suite of Delta restoration actions prescribed in the 2014 California Water Action Plan by 2020. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat.	The document does not sufficiently specify the components of EcoRestore. Please provide more detail on how EcoRestore would be adaptively managed in relation to the California Water Fix and how the impacts from these cumulative actions will be considered.
5.2.1	5-6	1-4	Omission	Alternatives 4A, 2D, and 5A do not have the same kind of concurrent project effects as described for the other alternatives because the interim restoration implementation actions are not part of these new alternatives but instead would be implemented separately under the California Water Action Plan/California EcoRestore program.	There is no certainty or commitment to complete the "separately" implemented projects. We suggest the following revision: "...the interim restoration implementation actions are not part of these new alternatives but instead MAY be implemented separately..."
5.2.1.2	5-10	7-9	WQ	Implementation of Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 2D, 3, 4 (H1, H3), 4A, 5, 5A, and 9 would result in more negative flows in Old and Middle Rivers in April and/or May as compared to Existing Conditions and the No Action Alternative.	The evaluation should also consider both the reverse flow conditions and the tidal amplification in the Sacramento River near to the North Delta intakes. The results should be made available for review.
5.2.1.4	5-14	14-17	Clarity	In areas upstream of the Delta, the conservation measures or components of these measures that would be implemented in addition to the water conveyance facilities would be: 1) the Yolo Bypass Fishery Enhancement (CM2), 2) Conservation Hatcheries (CM18), and 3) Urban Stormwater Treatment (CM19).	The project scope is inadequate as to how activities are included for the purposes of the cumulative analysis. Are CM19 measures only limited to those funded through Water Bond, Proposition 84, or future funding programs? There are a large number of other water quality based programs in the upstream areas that are not considered. Also, the cumulative analysis does not evaluate how the project will affect growth patterns statewide. The cumulative analysis also does not adequately evaluate the relative contributions of water quality constituents from the major sources, including the contributions due to the CA Water Fix Project and its operation and mitigation. At a minimum, a conceptual model with seasonal load estimates is necessary for assessment of this project.

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5.2.1.4	5-14	23-24	WQ	Maintenance activities associated with the physical structures would not result in substantial, adverse effects on water quality.	Changes in reservoir operation are inadequately considered in the cumulative analysis, where the combined impacts of the incremental effects should be evaluated. Operation at lower reservoir levels will have water quality effects on temperature, pH, metals speciation and release of constituents from sediment.
5.2.1.4	5-15	3-5	WQ	Boron and Trace Metals: CM2–CM21 would not present new or substantially changed sources of boron or trace metals in the Delta. Thus, their concurrent implementation with CM1 would not result in adverse boron and trace metals conditions.	The analysis inadequately evaluates the impact of lower reservoir levels on the release of trace metals from sediments and the effect of temperature increases.
5.2.1.4	5-15	29-31	Alternatives, WQ	The assessment of bromide, chloride, and EC conditions in the Delta concluded that CM1 plus the hydrodynamic effects associated with CM2 and CM4 under Alternatives 1A–9 would result in an adverse effect/significant and unavoidable impact, to varying degrees.	The document does not provide sufficient alternatives for mitigating water quality degradation that is expected from the project and related follow-up projects.
5.2.1.4	5-16	18-21	Omission, WQ	Concurrent implementation of CM1 with CM2–CM21 under Alternatives 1A–5 is not expected to result in more adverse/significant impacts than described for the separate conservation measures, because the mercury conditions in water and fish resulting from CM1 would be similar to Existing Conditions.	The cumulative impacts evaluation of mercury effects is inadequate as it does not provide an assessment of overall compliance with the Delta Methylmercury TMDL. Sediment release and water management are known to be the greatest contributors to the Delta methylmercury flux. The assessment should evaluate whether the proposed CM1 operations would result in an increase in sediment flux upstream and in the Delta, and provide mitigation if it does.
5.2.1.4	5-16	39-43	Alternatives, WQ	The assessment of Microcystis conditions in the Delta concluded that CM1 plus the hydrodynamic effects associated with CM2 and CM4 under Alternatives 1A–9 would result in an adverse effect/significant impact. Effects of CM2–CM21, beyond the increase in residence time and localized water temperature described in the separate impacts assessments, would not present new, previously unidentified impacts.	The document does not provide sufficient alternatives for mitigating water quality degradation that is expected from the project and related follow-up projects.

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5.2.1.7	5-19	13-15	WQ	Conversely, Alternatives 1 through 5 are not expected to result in any adverse operational effects associated with contaminants.	To avoid redundancy, we reference the comments we have made related to water quality impacts from reservoir operation at lower stages as well as the inadequate assessment of effects upstream of the North Delta diversions.
5.2.1.11	5-23	2-5	WQ	Construction of the water conveyance facilities under all action alternatives except Alternatives 4A, 2D, and 5A would have a wide range of significant adverse impacts on recreation occurring within the Plan Area.	Any reduction in summer releases from Folsom Dam would lead to recreational impacts. The frequency of reduced flow periods would reduce boating and swimming uses. Alternative 4A has the potential to reduce flows, which is not adequately discussed.
5.2.2.1	5-43	2-12	Clarity	Delta exports would change under implementation of the action alternatives. Implementation of Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4 (H1 operational scenario), 5, and 9 would not result in reductions in Delta exports as compared to Existing Conditions and No Action Alternative as described in Sections 5.3.3.2 through 5.3.3.10 and Section 5.3.3.16 of the Draft EIR/EIS. Implementation of Alternatives 4 (H4 operational scenario), 6A, 6B, 6C, 7, and 8 would result in reductions in Delta exports as compared to Existing Conditions and No Action Alternative as described in Sections 5.3.3.11 through 5.3.3.15 of the Draft EIR/EIS. Implementation of Alternative 4 (H2, H3, and H1 operational scenarios) would result in reductions in Delta exports as compared to Existing Conditions and an increase as compared to No Action Alternative. Indirect effects of changes in Delta exports are addressed in Chapter 30, Growth Inducement and Other Indirect Effects, of the Draft EIR/EIS and other chapters addressing specific resources.	Alternative 4A is not specifically referenced. Please clarify whether changes in net Delta exports would change, including during periods of scarcity.

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5.2.2.1	5-43	24-31	Omission	Cumulative projects related to American River and Mokelumne River would involve more senior water rights than the SWP and CVP water rights. Therefore, these types of projects, including the North Bay Aqueduct Alternate Intake Project combined with the action alternatives could result in some changes in Delta inflows which could affect the ability to operate the Delta export pumping plants to meet water quality and flow requirements for SWP and CVP operations. It is anticipated, based upon the available environmental documentation for the projects on the Sacramento, American and Mokelumne rivers that the effects in the Delta would not be substantial.	The cumulative analysis does not adequately evaluate the significance of these more senior rights during periods of scarcity when pumping and reservoir releases are not always required to meet objectives to maintain minimum supply diversions.
5.2.2.7	5-119	13-19	CM19	The implementation of CM19 Urban Stormwater Treatment, under the BDCP, would provide an additional source of funding for grants to entities such as the Sacramento Stormwater Quality Partnership, and area cities and counties, whose stormwater contributes to Delta waterways under NPDES MS4 stormwater permits. These grants would help to implement actions from, and in addition to, their respective stormwater management plans. Reducing the amount of pollution in stormwater runoff entering Delta waterways will benefit delta smelt, white sturgeon, steelhead, and Chinook salmon (Essex Partnership DRERIP 2009).	The assessment of CM19 is insufficient in that the relative loading of pollutant stressors was not evaluated, not even in a conceptual model. The effect of low-level pesticides on covered species or how concentrations improve between urban runoff discharges and covered species habitat is not well understood. A better understanding of all sources, the fate and transport in the system, and specific beneficial use impacts would allow more effective control measures rather than wide-scale implementation of projects that could be ineffective. Grant programs only fund a small percentage of projects such that it will take decades to have a substantial effect on urban runoff loads. Pesticide registration by EPA Office of Pesticide Programs and the California Department of Pesticide Regulation allow use of pesticides that local agencies have no authority to restrict.
5.2.2.7	5-120	15-17	CM19	The implementation of CM19 Urban Stormwater Treatment under the BDCP, would provide an additional source of funding for these and other entities in the Plan Area to implement these programs.	The document does not adequately describe funding assurances. The BDCP only states that funding may be available through existing and future grant programs. However, these grant programs (Propositions 84 and 1) are not specific to "Plan Area" entities and now require preparation of SB985 stormwater resource plans.

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5.2.4.8	5-136	7-11	Scope	When the effects of the alternatives on land use are considered in combination with the potential effects of other initiatives including those listed in Table 13-17 of the Draft EIR/EIS and below in Table 5.2.2.9-1, the cumulative effects on land use are potentially adverse. The specific programs, projects, and policies are identified below for each impact category based on the potential to contribute to an impact that could be deemed cumulatively considerable.	Land use is most substantially affected in the upstream watershed and in the Delta compared to the export areas. The document insufficiently addresses the socioeconomic impacts of the reduction in land use control in these upstream and Delta areas and does not adequately evaluate mitigation measures.
5.2.4.11	5-159	22-29	WQ, AM	Alternatives 1A–8, including Alternatives 4A, 2D, and 5A Under Alternatives 1A through 8, including Alternatives 4A, 2D, and 5A, water conveyance structures are expected to permanently displace some recreational access along the alternative alignments. These impacts are discussed in Chapter 15, Recreation. Maintenance of conveyance facilities, including intakes, would result in periodic temporary but not substantial adverse effects on boat passage and water-based recreational activities. Similarly, recreational changes associated with operation and maintenance of the cumulative [...] would not be anticipated to create adverse economic effects related to recreation. Because effects of facility maintenance would be short-term and intermittent, substantial cumulative economic effects are not anticipated to result.	Changes in operation of reservoirs may also limit flows and recreational activities in the Lower American River. The document does not adequately evaluate this diminished beneficial use.
5.2.4.11	5-162	34-36	CM19	Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing CM2–CM21 under Alternatives 1A–2C, 3–5, and 6A–9, or Environmental Commitments under Alternatives 4A, 2D, and 5A	The analysis inadequately assesses the cumulative impact of CM19 on local agencies, as the suggested grant funding is inadequate to make any measurable change in Delta water quality and benefit to covered species. The financial burden to demonstrate measureable changes in the Delta could then be passed on to local government.
A.6.3.1	6-1	16-18	WQ	Therefore, surface water resources on many of the tributaries of the Sacramento River and San Joaquin River that are not affected by SWP and CVP operations would not be affected by implementation of the alternatives.	It is not presented how reverse flow conditions in the South Delta and North Delta would be impacted by the proposed project. These conditions, especially during extreme events (drought, flood, fire, etc.), may in turn affect operation of other water supply infrastructure on tributaries. Please present the technical justification for the conclusion that upstream tributaries are not affected by the alternatives.

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A.8.0	8-3	14	WQ	San Francisco Bay	The areas upstream and near to the North Delta intakes should also be included in the assessment of water quality.
A.8.0	8-3	15-17	WQ	It should be noted that because aquatic life beneficial uses are the only uses expected to be affected by temperature changes under the various Alternatives, the water quality chapter cross-references to Chapter 11, Fish and Aquatic Resources, for all impact assessments for temperature.	Temperature effects will also impact drinking water treatment, including more rapid formation of disinfection byproducts and increases in macrophytes and algae that can disrupt water intakes.
A.8.1.3.7	8-15	26-32	WQ	Water quality in the southern Delta downstream of Vernalis is influenced primarily by San Joaquin River inflow; tidal action; agricultural return flows; and channel capacity. The Delta water supply operations have relatively little influence on salinity levels at these locations, and the elevated salinity in south Delta channels is affected substantially by local salt contributions discharged into the San Joaquin River downstream of Vernalis as evidenced by the comparatively lower EC levels at Vernalis and the Banks and Tracy export locations.	This statement is misleading and should be revised. The South Delta intakes are known to draw significant North Delta lower salinity water, which would improve water quality compared to San Joaquin River at Vernalis during some periods. The text implies that exceedances on Old River are not caused or influenced by the South Delta intakes, but rather local discharges.
A.8.1.3.8	8-19	29	WQ	Sources of anthropogenic EDCs include WTPs...	WTP is defined as a water treatment plant in the acronym list, but it is used incorrectly here. This reference should be made to wastewater treatment plants.
A.8.1.3.8	8-19	32-35	WQ	WTPs are not specifically designed to treat and remove CECs, and the WTP industry is just beginning to examine their ability to treat for EDCs, with an encouraging some degree of success (e.g., Snyder 2008; Benotti et al. 2009; Contra Costa Water District 2009); however, our understanding of treatability for CECs is incomplete.	This text is confusing, because the intention of the author is unclear. Water or wastewater treatment plants needs to be clarified, and the references need to be reviewed to ensure that they support the intended treatment facility.

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A.8.1.3.8	8-20	11-13	WQ	Municipal WTPs are not specifically designed to treat and remove CECs, however, activated sludge treatment processes are known to exhibit CEC treatment and removal effectiveness for many compounds.	WTP is defined in the BDCP documents as "water treatment plant". This text references wastewater treatment processes (activated sludge) and is not representative of water treatment plants. This section needs to be reviewed carefully to ensure that the appropriate studies have been applied for the purpose of the discussion. Please revise the text to accurately discuss the intended topic. For example, discuss treatability at wastewater treatment plants and/or discuss treatability and likelihood of presence in treated drinking water.
A.8.1.3.10	8-22	13-20	WQ	The Central Valley Water Board has embarked on a Nutrient Study Plan, that will be closely coordinated with the San Francisco Bay study effort, to determine whether separate nutrient criteria for the Delta are necessary. The Nutrient Study Plan is considered a necessary prerequisite for any decisions about creating NNEs for the Delta and determining how they would be implemented. The Nutrient Study Plan consists of four topical study areas (i.e., macrophyte, cyanobacteria, nutrient concentrations-forms-ratios, and modeling tools) to assess the fundamental question of whether there is evidence that nutrients contribute to Delta problems associated with macrophytes and algae.	The NNE Stakeholder and Technical Advisory Group (STAG) has also developed a charter that should be referenced as a key process document to develop the desired outcomes. Also, there is a fifth subcommittee that is evaluating drinking water impacts related to Delta nutrients. Please add reference to this subcommittee in the discussion.
A.8.1.3.10	8-22	28-30	WQ	Excessive algae growth also can be a concern for municipal beneficial uses as a result of the elevated organic carbon associated with organic biomass, and toxin formation potential of some species, in particular members of the blue-green algae.	The key document text should be revised: "Drinking water beneficial uses can be impaired by significant algal blooms. Much of the concern is for the export areas and conveyances where increased detention time and water temperature increases promote algal blooms. It is not yet clear if elevated nutrient concentrations are a significant cause of these outcomes." The evaluation of microcystis impacts should also consider areas upstream of the proposed North Delta diversions.

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A.8.1.3.11	8-25	13-22	WQ, Clarity	The Central Valley Water Board recently (July 2013) amended the Drinking Water Policy in the Basin Plan to include new directives to ensure that risks to drinking water quality associated with organic carbon from Delta source water does not increase over current levels. The Basin Plan narrative chemical objective (i.e., "Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.") was amended to include a new footnote stating "This includes drinking water chemical constituents of concern, such as organic carbon." The revised policy requires the Central Valley Water Board to consider the necessity for inclusion of monitoring of organic carbon, salinity, and nutrients when renewing waste discharge requirements based on the discharge loading, proximity to drinking water intakes, and trends in ambient conditions for these constituents.	The Drinking Water Policy covers the Delta and the upstream tributaries, and this text needs to be revised to include all source waters included in the Policy.
A.8.1.3.12	8-27	10-13	WQ	The Central Valley Water Board recently (July 2013) amended the Drinking Water Policy in the Basin Plan to include new directives to ensure that risks to drinking water quality associated with pathogens from Delta source water does not increase over current levels.	The Drinking Water Policy covers the Delta and the upstream tributaries, and this text needs to be revised to include all source waters included in the Policy.
A.8.1.3.16	8-38	32-36	WQ	The concentrations of these metals can be substantially elevated above background levels during watershed runoff events that transport high-suspended sediment loads. However, in general, a large majority of the metals are stable within the mineral matrices of the suspended particles and not available to interact chemically with other compounds or otherwise cause adverse water quality effects.	There are other causes and sources of metals (both dissolved and total) which are not discussed or presented here (reservoirs, agriculture, mines, etc.). This presentation should be expanded to include all sources. Supporting studies related to speciation of metals or stability in the source waters have not been included. This statement should be supported with water quality data specific to the Central Valley sources. We request that the supporting studies be provided and adequately referenced.
A.8.1.3.16	8-38 and 8-39	41-42, 1-2	WQ	These metals are readily removed via conventional water treatment processes that remove suspended sediment and through chemical ion exchange and adsorption (i.e., chemical coagulation and filtration systems), and all surface waters require a minimum of coagulation and filtration to conform to federal SDWA regulations.	Removal through conventional water treatment processes is highly variable based on source water quality (including speciation of metals) and specific treatment implemented. Also, the SWTR allows for unfiltered surface water supplies under certain criteria (see 64652.5. Criteria for Avoiding Filtration under Title 22, Division 4, Chapter 17, Article 2). This text needs to be revised.

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A.8.1.3.16	8-39	5-7	WQ	All three metals are regulated by secondary MCLs for their potential nuisance effects in domestic potable water supplies (e.g., staining, and taste and odor concerns).	Aluminum also has a primary drinking water standard of 1 mg/L, based on human health effects, that should be included in the discussion.
A.8.1.3.16	8-39	8-11	WQ	Therefore, ambient concentrations in the total form above the secondary MCLs should not be interpreted as having a direct impact on potable supplies; rather, increased concentrations may indicate the potential for greater levels of treatment required to achieve the same treated concentrations.	Increased ambient concentrations could have a direct impact on potable supplies. If source water concentrations increase, the treated water values are also likely to increase since drinking water treatment efficiency is highly variable and generally reflects a percent reduction. Although treated water levels may be less than the secondary MCLs, the treated water concentrations may be higher than the historic treated water values, increasing exposure and potential impact to the public.
A.8.1.3.16	8-40	17-20	WQ	Based on water quality criteria and objectives, and typical levels in surface waters, it is generally the case that aluminum, arsenic, iron, and manganese are of primary concern for drinking water, while aluminum, cadmium, chromium, copper, lead, nickel, silver, and zinc are of concern because of potential toxicity to aquatic organisms.	Although aluminum, iron, and manganese were added to the trace metals discussion, the data tables for metals were not expanded. We request the inclusion of aluminum, iron, and manganese in the data tables.
A.8.1.3.18	8-46	14-17	WQ, SSQP	Impacts from Microcystis blooms upstream of the Delta have only occurred in highly eutrophic lakes, such as Clear Lake, because most upstream reservoirs have relatively low nutrient levels. Hydrodynamic conditions of upstream rivers and watersheds are not conducive to Microcystis bloom formation.	The Sacramento Coordinated Monitoring Program monitored for phosphorus and found that 10 percent of samples exceeded 100 ug/L in the Sacramento/American River samples. Revised reservoir operations, due to the CA Water Fix, may result in low releases from the American River in the late summer/early fall. These low releases may contribute to elevated temperatures (>20 degrees Celsius) and low flow conditions in the Lower American River. When combined with existing high clarity, we are concerned that there is a potential for Microcystis blooms that could affect source water quality. These statements on upstream waterbodies remaining unimpacted need to be reviewed for potential extreme impacts.

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A.8.1.3.18	8-46	19-22	WQ	Levels of microcystin measured in water exported from the Delta have been below the World Health Organization advisory level of 1 µg/L for microcystin-LR, which was developed to protect against adverse liver effects associated with human consumption of microcystin-LR.	In June 2015, USEPA published 10-day Health Advisories (HAs) for microcystins. These include a 0.3 ug/L HA for children under 6 and a 1.6 ug/L HA for children over 6 and adults.
A.8.3.1.1	8-46 to 8-53	28-30 and other occurrences	WQ, Clarity	"models were used to assess compliance with water quality objectives for EC and chloride in the Delta, ..."	The section consistently refers to "compliance with water quality objectives", which implies that all water quality objectives were considered. For clarity, references in this section should be to "salinity related water quality objectives".
A.8.3.1.1	8-53	12-17	WQ, Clarity	At times, negotiations with the State Water Resources Control Board occur in order to effectively maximize and balance protection of beneficial uses and water rights. These activities are expected to continue to occur in the future. Thus, it is likely that some objective exceedances simulated in the modeling would not occur under the real-time monitoring and operational paradigm that will be in place to prevent such exceedances.	The last sentence is misleading by implying that the "real-time monitoring and operational paradigm" will necessarily reduce exceedances compared to modeling. Modeling may bias (favor high or low) the number of water quality exceedances compared to observed conditions. Real-time management has historically been used to maximize water export while attempting to minimize water quality impacts in key locations. Without a more detailed evaluation of historical performance of the models against observed conditions that demonstrates the "high-bias" of the models, the last sentence should be omitted.
A.8.3.1.3	8-56	3-7	WQ, AM	Finally, it must be noted that no formal validation studies have been performed to validate the mass-balance method that was used for boron, mercury, methylmercury, nitrate, or selenium. The validation studies performed to date on conservative constituents (e.g., EC, chloride, bromide) have validated the approach for using DSM2 to evaluate changes in mixing of Delta source waters on water quality constituents.	The shortcomings of the mass balance approach used (fate and transport effects, time-scales for assumptions, time-scales for water quality objective comparisons, etc.) might be better understood if an analysis of the net increase in loads of constituents was evaluated. This could be done by looking at historical water quality conditions in the North and South Delta and applying the proposed alternative export compared to the baselines. In other words, what was the historical load and volume exported and what is the expected load and volume exported under the alternatives? Monthly time scales would provide a good indicator of the overall water quality impacts.

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A.8.3.1.7	8-71	30-33	WQ, AM	Furthermore, there are several factors related to the modeling approach that may result in modeling artifacts that show objective exceedance, when in reality no such exceedance would occur in reality. Sensitivity analyses and further other analyses were performed to evaluate whether exceedances were indeed modeling artifacts or were potential project related impacts that may actually occur.	See previous comment on model water quality exceedance bias. The text suggests that the model will identify false positive exceedances. The model should be used to evaluate the trends and problematic areas. It was not demonstrated that the model introduces "false-negative" exceedance errors. Please provide a clearer quantification or range of the magnitude of the impacts modeled (e.g., volume diverted differences, changes in total loads passing key locations, etc.).
A.8.3.1.7	8-73	19-21	WQ	Further, since the Delta is thought to be light limited and nutrients are in excess relative to algal growth requirements, these types of changes would not be expected to measurably change the quantity or composition of algae in the Delta.	Recommended edits: Further, since the Delta is thought to be light limited and nutrients are in excess relative to algal growth requirements, these types of changes would not be expected to measurably change the quantity or composition of algae in the Delta. Increased retention time in the Delta and increased temperature are more strongly tied to algal and macrophyte growth enhancement.
A.8.3.1.7	8-82	21-24	WQ	Minimal changes in water clarity would result in minimal changes in light availability for Microcystis under the project Alternatives. As such, the project alternatives' influence on Microcystis production in the Delta, as influenced by the project alternatives' effects on Delta water clarity, is considered to be negligible.	The project Alternatives will increase residence times in some areas, which would tend to increase clarity and enhance microcystis production. Because water clarity is a limiting factor, even small changes should be evaluated for the potential to increase microcystis occurrence.
A.8.3.2.1	8-92	15-20	WQ	Given the size of the reservoirs—Lake Oroville, Trinity Lake, Shasta Lake, and Folsom Lake—and their significant surface area, inflows and wind fetch that would still contribute to oxygenating these water bodies, the lower carryover storage that would occur under the No Action Alternative is not expected to cause DO depletions or substantial changes in DO that would adversely affect the beneficial uses of these water bodies.	The end of September storage in critical years would be very low, as would be the surface area, and inflows. It is insufficiently supported that this would result in a fully turned lake system that would sufficiently oxygenate the entire depth of the lake and result in no impact to the DO levels. This comment applies to the NAA as well as all other alternatives.

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A.8.3.2.1	8-101	30-32	WQ	Based on comments received during public review of the initial Draft EIR/EIS, further evaluation of aluminum data and potential effects are included herein. Aluminum has potential to result in aquatic toxicity effects as well as nuisance aesthetic concerns in potable water.	It should be noted that the aluminum discussion was only added to the Delta section and should have been included in the upstream of the Delta section as well. Also, there are both primary (health based) and secondary (aesthetic based) drinking water standards for aluminum, which should both be discussed.
A.8.3.2.1	8-102	25-31	WQ	In the rivers and streams of the Sacramento River watershed, watersheds of the eastern tributaries (Cosumnes, Mokelumne, and Calaveras Rivers), and the San Joaquin River upstream of the Delta, under Existing Conditions, bloom development is limited by high water velocity and low residence times. These conditions are not expected to change under the No Action Alternative. Consequently, any modified reservoir operations under the No Action Alternative are not expected to promote Microcystis production upstream of the Delta, relative to Existing Conditions.	This comment applies to the NAA as well as all other project Alternatives (1-9). As noted above, we are concerned that reducing late summer/early fall discharges from Folsom Dam will result in higher temperatures and low flow scenarios on the Lower American River that may contribute to an increase in algae populations and potentially Microcystis.
A.8.3.2.2	8-143	30-31	WQ	Mitigation Measure WQ-32b: Investigate and Implement Operational Measures to Manage Water Residence Time	This comment applies to all project Alternatives (1-9). This Mitigation Measure is specific only to water residence time in the Delta and does not provide assessment for any waterbodies upstream of the Delta. We have concern that low reservoir releases from Folsom Lake in the late summer/early fall have the potential to create an environment conducive to algal growth, and this should also be included in the assessment.
A.8.3.3.17	8-453	17-19	WQ	In addition, the frequency, magnitude, and geographic extent of Microcystis blooms in Delta waters may increase in the future as Delta water temperatures increase due to climate change.	The impact of microcystis blooms on the Lower American River (upstream of the Delta) needs to be evaluated as impacting the NAA and the other project alternatives (1-9) and may need to be added here.

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A.8.3.3.17	8-456	27-38	WQ	Climate change projected for the future is expected to cause an increase in average Delta water temperatures during the summer and early fall period of the year. Increased water temperatures could lead to earlier attainment of the water temperature threshold of 19°C required to initiate Microcystis bloom formation in the Delta, and thus earlier occurrences of Microcystis blooms, relative to Existing Conditions. Warmer water temperatures could also increase bloom duration and magnitude, relative to Existing Conditions. Nevertheless, it should be noted that projected Delta water temperature increases would be due entirely to climate change, and are not due to the implementation of Alternatives 1A-9. Because climate change is assumed under the No Action Alternative, potential water temperature-driven increases in Microcystis blooms in the Delta, relative to Existing Conditions, also would occur under the No Action Alternative. Therefore, no water temperature-driven increases in Microcystis blooms would occur in the Delta under Alternatives 1A-9, relative to the No Action Alternative.	The potential temperature impacts from climate change have not been accounted for in waters upstream of the Delta. Also, model results presented in the BDCP documents indicated that there could be significant temperature increases due to variable reservoir operations, including at Folsom Lake, so it is unclear why climate change is held solely responsible for temperature increases. Finally, substantially reduced late summer reservoir releases may significantly impact the hydrology of the rivers below these reservoirs. We request that the analysis or results reporting be expanded to include potential geographic spread of increased water temperatures and potentially associated algal blooms.
A.8.3.3.17	8-456	39-40	WQ	Water diverted from the Sacramento River in the North Delta is expected to be unaffected by Microcystis and microcystins.	Insufficient data was presented to support this claim. Insufficient analysis was done to review climate change and Alternative implementation impacts on waters upstream of the Delta.
A.11.3.5.4	11-189	8-14	Alternatives, WQ	This impact discussion is new and is divided by Alternatives 1-5 (Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 8 3, 4, 5); Alternatives 4A, 2D, and 5A; and Alternatives 6-9 (Alternatives 6, 7, 8, and 9). Residence time changes are shown for Alternatives 1-9 in Table 8-60a of Section 8.3.1.7. The effects of contaminants on aquatic resources associated with implementation of water operations will depend on how operations change the composition or concentration of contaminants, how contaminant bioavailability is affected, and how those changes might impact aquatic resources.	The impact evaluation should be expanded to include cumulative effects of the proposed project and its mitigation activities that can contribute contaminants.

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A.11.3.5.4	11-189	27-40	WQ, Alternatives	<p>The operational impacts of new flows under CMI Water Facilities and Operation on mercury and methylmercury concentrations were evaluated both qualitatively in the context of a conceptual model for mercury in the delta, and quantitatively using a numerical model; details on these analyses are described in Appendix 8I, Mercury. These two lines of analyses must be considered together, since a very high level of uncertainty is associated with both approaches, as further described below. Based on the conceptual model, since the Sacramento River is a larger contributor of mercury loading to the Delta system relative to the San Joaquin River, a reduction of the flow from the Sacramento River entering the Delta (due to some of the flow being exported) and an increase in the flow from the San Joaquin River entering the Delta (as opposed to being exported) would be expected to result in an overall decrease in mercury loading to the Delta under CMI water operations. However, since the concentrations of mercury in San Joaquin River are sometimes higher than the Sacramento River, there could be increases in mercury concentrations at certain locations, depending on the specific operations at any given time.</p>	<p>The increase in methylmercury concentration resulting from the proposed project may lead to higher fish tissue concentration and further impairment due to methylmercury. While there is uncertainty with modeling, if the impact is reasonably expected, it should be reasonably mitigated.</p>
A.11.3.5.4	11-193	10-18	WQ, Alternatives	<p>NEPA Effects: Based on the above discussion, the effects of mercury and methylmercury in comparison to the No Action Alternative are not considered to be adverse to all fish species evaluated for Alternatives 2D, 4A, and 5A because the modeled changes are within the range of uncertainty and no substantive change is indicated.</p> <p>CEQA Conclusion: Alternatives 2D, 4A, and 5A would not increase levels of mercury by frequency, magnitude, and geographic extent such that the affected environment would be expected to have measurably higher body burdens of mercury in aquatic organisms, thereby substantially increasing the health risks to wildlife (including fish). This impact is considered to be less than significant for Alternatives 2D, 4A, and 5A. No mitigation is required.</p>	<p>This is a sample excerpt to support the concern that cumulative contaminant impacts for mercury and selenium are insufficiently evaluated in the revised environmental document. Also, Alternative 4A does have the potential to cause significant impacts, and reasonable mitigation for methylmercury should be included. There are numerous other parts of the California Water Fix documents where this is applicable.</p>

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A.25.1.1.4	25-6	9-11	WQ	No federal regulatory guidelines for cyanobacteria or their toxins in drinking water or recreational waters exist at this time in the United States.	In June 2015, USEPA published 10-day Health Advisories for microcystins. These include a 0.3 ug/L HA for children under 6 and a 1.6 ug/L HA for children over 6 and adults.
A.25.3.2	25-21	35-36	WQ	Increase in Microcystis in water bodies in the study area such that municipal and domestic supply and water contact recreation beneficial uses are negatively affected.	The potential impact to the MUN beneficial use should be further evaluated for waters upstream of the Delta.
A.25.3.3.1	25-27	21-24	WQ	Any modified reservoir operations under the No Action Alternative are not expected to promote Microcystis production upstream of the Delta since large reservoirs upstream of the Delta are typically low in nutrient concentrations and phytoplankton outcompete cyanobacteria, including Microcystis.	As noted above, we are concerned about the potential for varying river flows due to revised reservoir release operations and increased temperatures expanding the geographic extent of Microcystis.
A.25.3.3.2	25-32	34-40	WQ	Any modified reservoir operations under Alternative 1A are not expected to promote Microcystis production upstream of the Delta since large reservoirs upstream of the Delta are typically low in nutrient concentrations and phytoplankton outcompete cyanobacteria, including Microcystis. Further, in the rivers and streams of the Sacramento River watershed, watersheds of the eastern tributaries (Cosumnes, Mokelumne, and Calaveras Rivers), and the San Joaquin River upstream of the Delta, bloom development would be limited by high water velocity and low hydraulic residence times.	This comment applies to all of the action alternatives (1-9). We are concerned that modified reservoir operations will impact water flow and velocity of the rivers below reservoirs in the late summer/early fall, and combined with projected temperature increases could contribute to increased Microcystis presence in the Lower American River.
A.28.5.8.7	28-16	15-18	WQ	Consequently, it is possible that increases in the frequency, magnitude, and geographic extent of Microcystis blooms in the Delta would occur due to the operations and maintenance of the water conveyance facilities and the hydrodynamic impacts of restoration under CM2 and CM4.	As noted previously, we are concerned with potential for Microcystis presence in areas upstream of the Delta and believe that this mitigation effort should be expanded to include tracking of the rivers below the major upstream reservoirs during late summer/fall. We are concerned that revised reservoir operations may lead to significant seasonal changes in river hydrodynamics that could support Microcystis growth.

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Section	Page	Line	Type	Key Document Text	Comment
A.31.4	31-4		WQ, omission	WQ-18: Effects on pesticides concentrations resulting from implementation of CM2 - CM21	It is unclear why this impact was removed from the Significant and Unavoidable list. There are no revisions to the text, which supports significance - even after mitigation. Moreover the grouping of CM2-CM21 in this case confuses the causes of impacts. For example, CM19 would not increase pesticide concentrations; however, conservation measures such as restoration efforts or flow modifications could reasonably increase Delta pesticide concentrations.
A.3D-A	3D-34		Clarity	System Reoperation Program, DWR	We appreciate the inclusion of this project in the list of those considered for Existing Conditions, NAA, and Cumulative. No revisions were made to the modeling appendices (Chapter 5) so it is unclear how this program was incorporated into modeling analysis, or if it was not. We would appreciate clarification on any impacts on model results from the inclusion of this project.
A.3D-A	3D-82 and 3D-95		Clarity	Folsom Dam Safety and Flood Damage Reduction Project, USBR and USACE	We appreciate the inclusion of this project in the list of those considered. This appears to be the same project, represented twice. There is inconsistency on the application to Existing Conditions, which should be reviewed and revised accordingly. Also, no revisions were made to the modeling appendices (Chapter 5) so it is unclear how this program was incorporated into modeling analysis, or if it was not. We would appreciate clarification on any impacts on model results from the inclusion of this project.
A.8C.1.2	8C-1	15-17	WQ, Omission	No comprehensive source water data from the Sacramento River, San Joaquin River, or Delta were identified for hexavalent chromium.	All drinking water utilities were required to conduct monitoring for hexavalent chromium by July 2014, and many were conducting monitoring in advance of that date. There is available data for many of the surface waters upstream of the Delta, in the Delta, and for the CVP/SWP export areas that could be obtained via those agencies.
A.8H-1	8H-3		WQ	Even though the sensitivity analyses were performed at LLT, the factors identified to explain modeled salinity exceedances at LLT are expected to be valid similarly at Early Long-term (ELT) conditions.	It is unclear why it is valid to apply the results of the sensitivity analysis to the ELT. Please expand on the rationale.

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Section	Page	Line	Type	Key Document Text	Comment
D.3.4.1.5	D.3-29	Table 3.4.1-5, Row 3	WQ	<p>To what extent does CM1 change the abundance and distribution of Microcystis? Assess abundance and distribution of Microcystis using field studies such as those of Lehman et al. (2005, 2010). Summer months following implementation of CM1 (i.e., after north Delta intakes are completed and diversions at the south Delta export facilities decrease). Multiple year study to capture hydrological and operational variability.</p>	<p>Similar to previous comments, the potential impacts to areas upstream of the Delta have been inadequately assessed with regard to potential for Microcystis growth. This assessment should be expanded to include areas upstream of the Delta to determine if the presence of Microcystis is changing.</p>
D.3.6.4.3	D.3-138	1-9	AM	<p>Decision Trees: This focus area includes all monitoring and research needed to resolve which branch of the Decision Trees is chosen for initial operations (see Section 3.4.1.4.4, Decision Trees for a description of the Decision Trees). Potential partners for monitoring and research in this focus area include the IEP, Delta Science Program, Ecosystem Restoration Program, Central Valley Water Board, Sacramento Stormwater Quality Partnership, State Water Contractors, USGS, San Francisco Estuary Institute, Central Valley Joint Venture, CDFW Bay-Delta Office, Ecological Species Recovery Program, and UC Davis Research Programs. Unlike the other focus areas, the Decision Trees focus area has a deadline, terminating when the new north Delta diversions become operational.</p>	<p>It is not clear why the decision tree focus group should terminate efforts after the proposed North Delta diversion is operational. Are the decision trees then static? Please provide more information on this focus group and the justification for not including this group on the adaptive management team.</p>
D.3.6.4.4	D.3-141	Table 3.6-1 2.	AM	<p>Sacramento Stormwater Quality Partnership</p>	<p>The SSQP role is limited to only “community involvement” and “landowner” access and should be expanded to allow more direct feedback on water quality issues and other impacts to local agencies.</p>
D.3.6.4.4.12	D.3-144	13-17	Error	<p>Sacramento Stormwater Quality Partnership The Sacramento Stormwater Quality Partnership is a multi-jurisdictional program made of Sacramento County and the incorporated cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova to ensure water quality and quantity for cities. The Partnership may be a stakeholder and monitoring or research partner in CM19 implementation.</p>	<p>The Sacramento Stormwater Quality Partnership is not a drinking water partnership and does not “ensure ... quantity”.</p>

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Section	Page	Line	Type	Key Document Text	Comment
D.6.3.5.2	D-243	17-19	Scope, WQ	The fifth five-year review (i.e., the 25-year review) will include a comprehensive assessment of whether the timing and magnitude of observed environmental and ecosystem changes attributable to climate change have been consistent with Plan expectations.	Since the term of the ELT is 15 years (2025), it is warranted to conduct the climate change assessment at a time consistent with the assumptions. We recommend conducting this review in 2025 to validate ELT assumptions and revise LLT assumptions to support the ESA Section 7 and CESA incidental take authorization.
G Introduction	G-1	15-19	Scope, Omission	The revised proposed project, identified in the Partially Recirculated Draft EIR/Supplemental Draft EIS (RDEIR/SDEIS), no longer includes a HCP/NCCP (see Section 1, Introduction, of the RDEIR/SDEIS for more information); therefore, Alternative 4A will not be incorporated into the Delta Plan and will follow a different process to demonstrate consistency with the Delta Plan.	Although the CA Water Fix claims to not technically need to meet the requirements of Delta Reform Act Water Code section 85320, there are elements of the content and intent of this regulation that should be addressed in the California Water Fix.
G.4.1	G-3	14-15	Alternatives	Reduce Reliance on the Delta through Improved Regional Water Self-Reliance (23 CCR Section 5003)	The RDEIR/SDEIS lacks an alternative with a portfolio approach that examines the role of regional water self-reliance.
G.4.1	G-4	9-10	Clarity, Omission	DWR is preparing a Mitigation, Monitoring and Reporting Program (MMRP) that will be available with the Final EIR/EIS.	It is a concern that more information is not available in the RDEIR/SDEIS for comment during the public review period. The following comment is based on the limited language provided in the RDEIR/SDEIS. The key components of the monitoring program should be included in the final environmental document. There should be a more detailed explanation of how the monitoring program will be a component of a long-term adaptive management program and how the monitoring information will be used to inform decisions on mitigation efforts. Consideration should be given to coordination and funding of other stakeholder monitoring programs such as the Delta RMP rather than isolated programs solely within state agencies.

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
G.4.1	G-4	9-10	Clarity, Omission	DWR is preparing a Mitigation, Monitoring and Reporting Program (MMRP) that will be available with the Final EIR/EIS.	This is a significant item that is not adequately covered in the RDEIR/SDEIS. The RDEIR/SDEIS is then insufficient in that it is not substantially complete and is missing key elements to allow for a complete Public Review. Furthermore, we request that the MMRP engage local agency stakeholders and the Delta RMP.
G.4.2	G-4	19-21	Clarity	All of the documents, studies, administrative drafts, and meeting materials – more than 3,000 documents – have been posted online since 2010 in an unprecedented commitment to public access and government transparency.	While we agree significant effort and detailed thought has gone into the tens of thousands of pages of documents that are publicly available, the science process has not been transparent in that comments and responses to comments on the BDCP documents and RDEIR/SDEIS were not circulated. Further, the City and others have requested specific science items that have not yet been provided or responded to. The quantity of documents is high, but the attention to key science questions has been inadequate.
G.4.3	G-5	5-7	Error	To address this uncertainty, DWR, Bureau of Reclamation (Reclamation), California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and the public water agencies....	The RDEIR/SDEIS should be updated throughout the documents to clarify that the "public water agencies" referred to are the water agencies that would receive water from the CA Water Fix project.
G.4.3	G-5	8-11	Clarity, Omission	The proposed project (Alternative 4A) will include an adaptive management plan that describes the approach to be taken, which, to the extent feasible, will be consistent with the adaptive management framework in Appendix 1B of the Delta Plan	The nine step process as described in Appendix 1B of the Delta Plan should be discussed in the RDEIR/SDEIS in sufficient detail to provide readers with an understanding of the key components and focus areas of the planned adaptive management program. Insufficient detail is provided to assure allocation of sufficient resources, coordination with other programs, and adequacy to address project impacts.
G.4.3	G-5	27-30	AM, Omission	In summary, the broad purposes of the program will be to: (1) undertake collaborative science, (2) guide the development and implementation of scientific investigations and monitoring for both permit compliance and adaptive management, and (3) apply new information and insights to management decisions and actions.	The CA Water Fix does not commit funding and support to collaborative science that includes all stakeholders including local agencies. Sufficient description and information on the Adaptive Management Plan is not provided, therefore, the RDEIR/SDEIS is insufficient.

Attachment A. City of Sacramento Specific Comments on California Water Fix Documents

Section	Page	Line	Type	Key Document Text	Comment
G.4.4	G-6	10-14	Alternatives	While the DMMs (Demand Management Measures) are not proposed as part of any alternative, Appendix 1C of the Draft EIR/EIS is intended to provide information on the important contribution made by DMM towards reducing demands in areas served by water exported from the Delta. By reducing long-term water demand in the areas served by the SWP and CVP contracting agencies, demand management efforts complement the environmental objectives of the proposed project.	One or more project alternatives should be provided to include demand management and resulting environmental benefits with regards to the project.



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BDCP Comments
Ryan Wulff
National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814

Submitted via U. S. Mail and Email: BDCP.Comments@noaa.gov

Subject: City of Sacramento Comments on the Bay Delta Conservation Plan (BDCP) Draft DEIR/EIS and the BDCP

Dear Mr. Wulff:

The City of Sacramento (City) appreciates the opportunity to provide these comments on the Bay Delta Conservation Plan (BDCP) Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS), and the BDCP (December 13, 2013 Public Review Draft).

The City provides a potable water supply primarily from surface waters tributary to the Delta that serves more than 136,000 customer accounts, and approximately 486,000 residents. The City's diversions of surface water are made pursuant to pre-1914 rights, five water right permits, and a permanent water right settlement contract with the U.S. Bureau of Reclamation. In addition, the City provides the following critical services that benefit City residents and businesses as well as the Delta:

- Municipal separate stormwater sewer system (MS4) services that include a management program, compliance with the National Pollutant Discharge Elimination System permit (NPDES No. CAS082597, Order No. R5-2008-0142), and participation in the Sacramento Stormwater Quality Partnership (SSQP). The SSQP is a multi-jurisdictional program made up of Sacramento County and the incorporated cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova, to provide education and outreach to reduce pollution and to standardize pollution best management practices for development projects across the region. These programs have supported water quality improvements in local creeks and rivers for more than 25 years. The Stormwater Quality Program includes construction, industrial, illicit discharge, new development, municipal, and public outreach elements that are designed to improve water quality.

- A combined sewer system (NPDES No. CA0079111, Order No. R5-2010-0004) that treats more than 99.5% of stormwater drainage and wastewater from an 11.3 square mile area in the City's Downtown, East Sacramento, and Land Park areas.

The City values environmental resources and is committed to the protection of our waterways, biological species and habitat, and other environmental resources. Preservation of these environmental resources and maintenance of their quality is not only beneficial to current residents but is crucial to the sustainability of future generations. The City has been a major participant in the Sacramento Area Water Forum, in support of regional water supply reliability and protection of the Lower American River environmental values. The City supports the co-equal goals of restoring the ecological health of the Delta and creating a reliable water supply for all of California.

The City is also participating with the North State Water Alliance and the American River Water Agencies in preparing and submitting comments on the BDCP and BDCP DEIR/DEIS. The comments by these two groups largely focus on the deficiencies in both BDCP documents relative to water supply and hydrologic and fisheries analysis, and the City incorporates those comment letters by reference into this comment letter.

The Sacramento Stormwater Quality Partnership also is submitting comments on the BDCP and DEIR/EIS, and the City supports the comments made by the SSQP.

Sacramento County submitted comments on the BDCP and BDCP DEIR/EIS, which were endorsed by the Sacramento County Board of Supervisors on May 28, 2014. The City also supports the comments submitted by Sacramento County.

COMMENTS ON DEIR/EIS

The City has reviewed the water quality analysis included in the DEIR/EIS and found numerous deficiencies. The most significant deficiencies are generally discussed in this letter, which is supported by the specific comments provided in Attachment 1, which is included and incorporated in our comments:

1. Insufficient Scope of Reasonable Alternatives
2. Inadequate Assessment of Impacts to Conservation Measure 1 if Conservation Measures 2 through 22 Not Fully Implemented
3. Insufficient Incorporation of Other Major Programs, Plans, and Projects
4. Insufficient Water Quality Analysis to Support Characterization of Water Quality Impacts
5. Insufficient Mitigation of Adverse and Significant Impacts
6. Insufficient Evaluation of Fiscal Burden on Local Agencies
7. Inconsistent and Inadequate Definition of the Areas of Additional Analysis in Plan Area
8. Technical Errors and Omissions in Evaluation of Impacts

COMMENT 1 – INSUFFICIENT SCOPE OF REASONABLE ALTERNATIVES

The BDCP analysis must include an evaluation of the Portfolio-Based Conceptual Alternative for BDCP, as detailed in the letter dated January 16, 2013 from NRDC, et al. (Attachment 2.)

The DEIR/EIS indicates that the project alternatives selected were based on the Delta Reform Act requirements; however, the scope of alternatives in a DEIR/EIS also must be developed in compliance with CEQA and National Environmental Policy Act (NEPA) requirements. The environmental review process must evaluate reasonable alternatives that avoid or minimize the environmental and economic impacts of the proposed project. Although it is not necessary to consider every conceivable alternative, the analysis must include “a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.”¹ Moreover, the analysis in an EIR should focus on alternatives that can avoid or substantially reduce significant impacts even if they would impede attainment of the project objectives to some degree or be more costly.² The range of alternatives considered under NEPA must foster rather than constrain the options available to decision makers.³

The alternatives provided in the DEIR/EIS do not meet these standards; therefore, the analysis is incomplete and insufficient.

A reasonable range of alternatives would consider storage alternatives and regional independence to minimize or modify exports from the Delta. This evaluation should include other water supply strategies including increased desalination, recycled water use, conservation and conjunctive use. Evaluating only different sizes and configurations of North Delta intakes and conveyance does not provide a reasonable or sufficient assessment of impacts for Conservation Measure 1 (CMI).

The scope of alternatives must be expanded. Attachment 1 provides additional specific comments on the DEIR/EIS related to the sufficiency of the scope of reasonable alternatives to CMI.

COMMENT 2 - INADEQUATE ASSESSMENT OF IMPACTS TO CONSERVATION MEASURE 1 IF CONSERVATION MEASURES 2 THROUGH 22 NOT FULLY IMPLEMENTED

The Delta Reform Act, in California Water Code Section 85320(b), states that the BDCP will not be incorporated into the Delta Plan if it does not meet the Delta Reform Act’s requirements. The Delta Reform Act requires that construction of a new Delta conveyance facility shall not be initiated until arrangements have been made to pay for the cost of mitigation required for construction, operation, and maintenance of any new Delta conveyance facility. (Water Code Section 85089.) Accordingly, the mitigation measures need to be clearly specified, and linkages to impacts of the proposed project should be plainly identified so that the financial obligations are apparent. The Draft DEIR/EIS fails to address this, as well as other major requirements of the Delta Reform Act. Therefore, the BDCP cannot be incorporated into the Delta Plan unless these flaws are remedied.

¹ State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3) § 15126.6(a). The California Supreme Court has described the analysis of alternatives and mitigation as “the core of an EIR.” *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.

² State CEQA Guidelines § 15126.6(b).

³ See, e.g., *State Of California v. Block* (9th Cir. 1992) 690 F.2d 753.

The DEIR/EIS must specifically identify the minimum and expected levels of implementation, the benefits of these levels of implementation, and CM1 operational limitations based on the level of implementation for CM2 through CM22.

The DEIR/EIS is a project level analysis for CM1 and refers to the environmental commitments and other BDCP conservation measures (CM2-22) intended to reduce, avoid, or minimize environmental effects of the BDCP and CM1 (page 1-13, lines 3-9). In contrast to CM1, which is the new diversion and delivery facilities themselves⁴, these other BDCP conservation measures are only evaluated at a program level of review. The DEIR/EIS further acknowledges that these commitments and conservation measures will require additional environmental documentation. Also, the BDCP proposes to fund many of the conservation measures by State bonds that will need to be approved by the public. There is no current guarantee of full or even partial implementation (permitting and funding) of CM2 through CM22.

The DEIR/EIS analysis assumes completion of all of these items and does not account for lack of implementation or partial implementation of any of these commitments or conservation measures. There is no analysis included to address impacts to CM1 if any or all of the other supporting CMs are not implemented and how the design, construction, and operation of CM1 may need to be modified accordingly. The Adaptive Monitoring program of the BDCP should include a process for verifying the completion of supporting conservation measures and the necessity of revising analyses conducted, if necessary, to modify CM1.

Under CEQA, mitigation measures must be enforceable and legally binding, so there is adequate assurance that the measures actually will be implemented.⁵ The environmental commitments and other BDCP conservation measures proposed as mitigation for the environmental effects of the BDCP and CM1 do not meet this test.

The 2013 Delta Plan (Chapter 6, Page 230) includes recommendation WQ R2 that “Covered actions should identify any significant impacts to water quality.” All conservation measures and combinations of their cumulative effects should therefore be evaluated for all impacts. A reasonable evaluation of the implementation schedule for conservation measures, identification of the most critical conservation measures, and an overall assessment of water quality impacts should be performed and clearly presented to meet the Delta Plan recommendations as well as CEQA/NEPA requirements.

The DEIR/EIS must provide an assessment of impacts to and by CM1 if CM2 through CM 22 are not fully implemented. Attachment 1 provides specific comments related to the assessment of non-implementation of supporting conservation measures. The Adaptive Monitoring program must include a process for verification of completion of supporting conservation measures and a plan for revising analysis if modifications to CM1 are necessary.

COMMENT 3 – INSUFFICIENT INCORPORATION OF OTHER MAJOR PROGRAMS, PLANS, AND PROJECTS

The DEIR/EIS asserts that it has addressed cumulative impacts on the environment as a result of implementation of the BDCP and its conservation measures in combination with other past, present, and reasonably foreseeable projects. However, this analysis is incomplete. Exclusion of some projects inaccurately alters the impact analyses and relative significance of the BDCP. California is working

⁴ It is not apparent that the new water diversion and delivery facilities are legitimately a conservation measure.

⁵ State CEQA Guidelines § 15126.4(a)(2); *Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261.

aggressively to plan adaptation and mitigation strategies to address impacts of climate change, and these various activities should be acknowledged and accounted for in the evaluation (page 6-43, lines 3-15).

The Department of Water Resources (DWR) System Reoperation Program was authorized under State Bill X2 1 in 2008 and includes development of a revised plan of operations for the coordinated State Water Project (SWP)/Central Valley Project (CVP) in order to address flood control, water supply, and ecosystem concerns. The DWR System Reoperation Program includes strategies to address climate change mitigation and adaptation. This program was erroneously omitted from the DEIR/EIS. The No Action Alternative, action alternatives, and the cumulative impact analyses are incomplete and the System Reoperation Program should be described and included as a reasonably foreseeable program.

The DEIR/EIS includes the Folsom Dam Safety and Flood Damage Reduction Project in the No Action Alternative and Cumulative Impacts analyses in name only (Attachment 3D-A, page 3D-99), and does not provide any adjustment in operations of Folsom Lake under the new spillway and Water Control Manual operations in the CALSIM II modeling. This project will be operational in 2015 and should have been considered more thoroughly in revised reservoir operations in the modeling analysis. The analysis is incomplete and should be revised to include the current projected revisions to operations.

The North Bay Aqueduct Alternative Intake Project is described in the DEIR/EIS as part of Mitigation Measure WQ-5 and an environmental commitment that the project proponents may support. However the design and construction of this facility are specifically excluded from this DEIR/EIS. DWR issued a Notice of Preparation for this project in 2009, but its status is uncertain. It appears that the proposed long-term operation of such an intake was not included in the evaluations and analyses conducted as part of this DEIR/EIS, since Attachment 3D-A on page 3D-52 indicates that it was not included in the No Action Alternative nor the Cumulative Analysis. If the operation of the intake is intended to be included in this DEIR/EIS, then the flow and quality analyses and evaluations are incomplete and must be expanded.

The DWR System Reoperation Program, Folsom Dam Safety and Flood Damage Reduction Project, and the North Bay Aqueduct Alternative Intake Project must be included in the impacts assessment in a manner that adequately characterizes the cumulative impacts and the accounts for simultaneous operation of all project components. Attachment 1 provides specific comments related to the sufficiency of incorporation of related programs, plans, and projects.

COMMENT 4 – INSUFFICIENT WATER QUALITY ANALYSIS TO SUPPORT CHARACTERIZATION OF WATER QUALITY IMPACTS

The DEIR/EIS asserts that it has conducted a comprehensive review and analysis of the effects of the proposed Delta conveyance alternatives on water quality (BDCP DEIR/EIS Highlights, page 5); however, it is incomplete. There are numerous errors and omissions in the evaluation. The focus of the study was largely limited to select locations and did not sufficiently assess the impacts to water quality below the major reservoirs and upstream of the Delta, as well as the areas in the vicinity of the CM1 intakes and CM2 diversion. The water quality impacts described in Chapter 8 of the DEIR/EIS have the following inadequacies:

- Insufficient characterization of water quality impacts in the Lower Sacramento River from Veterans Bridge to Emmaton.
- Insufficient use of available computational models to assess impacts on constituent concentrations rather than just hydrodynamics.

- Insufficient characterization of several key constituents.
- Inadequate summaries of water quality impact findings for all alternatives.

Adequate water quality assessments must be performed to correct these insufficiencies and inadequacies so that the impacts can be correctly understood, which is fundamental to determining whether the proposed mitigation is adequate to minimize impacts to water quality. Attachment 1 provides specific comments related to the sufficiency of the water quality analysis and supporting evaluations.

Sample Locations and Analysis of Impacts

The evaluation in Chapter 8 needs to be expanded to provide an accurate and more complete assessment. Chapter 8 primarily bases water quality impact conclusions on a limited number of sample locations and does not perform a detailed analysis of impacts in the area around the proposed North Delta intake on the Sacramento River, specifically between Emmaton and Veterans Bridge.

Computational Models and Water Quality Evaluation

The DEIR/EIS states (page 8-130, lines 28-30) that the analysis is quantitative only where “modeling tools were developed and were available, and qualitatively assesses effects where appropriate modeling tools were unavailable”. Many such computational models exist for many of the constituents and river reaches not evaluated in the DEIR/EIS. A project of this scope and potential impact has the resources to develop and utilize these tools necessary for adequate analyses.

The water quality evaluation presented in Chapter 8 of the DEIR/EIS, and supported by numerous appendices, was insufficient in several ways:

- Inadequate definition of constituents of interest and collection of inadequate data (36 constituents with drinking water standards were not included in the Screening Analysis),
- Inadequate assessment of contributions from various sources in the watersheds,
- Insufficient representation of all areas impacted by BDCP operations (specifically the areas upstream of the Delta and on the Sacramento River up to all major water intakes), and
- Inadequate consideration of impacts of reservoir operations, specifically storage volume, on downstream water quality (related to metals and turbidity).

In addition, the water quality analysis methodology utilized inappropriate data evaluation procedures, and the supporting water supply modeling was flawed in numerous assumptions, such as not including the hydrodynamic impacts of CM2 on the water quality of the Lower Sacramento River.

Inadequate Summaries of Water Quality Impact Findings for Baselines and Alternatives

DEIR/EIS Section 8.1.6 refers to two different baselines (the CEQA and NEPA baselines), and the evaluation of water quality impacts in 2060 yields information that is extremely difficult to understand or verify. A simple analysis of near term water quality changes from existing ambient water quality is needed to provide the public with understandable information, to provide context/grounding for the long term impacts that are presented, and to allow a proper assessment of compliance with state and federal antidegradation policies.

The BDCP Chapter 5 Effects Analysis and its appendices are difficult to review due to organization problems, inconsistencies, and inadequate cross-referencing. For example, Chapter 5 includes many

cross-references to other large documents without specific page numbers and sections. It is then a significant effort to review thousands of pages of appendices to try to find the referenced information with little assurance that it is the correct reference. The chapter makes the interpretation of net effects of BDCP implementation difficult at best. The Independent Panel charged with review of the Effects Analysis has stated that it “universally believes that by itself, Chapter 5... inadequately conveys the fully integrated assessment that is needed to draw conclusions about the Plan...” [Delta Science Program Independent Review Panel Report (DSP-IRP Report), BDCP Effects Analysis Review, Phase 3, March 2014, page 5]

Selected Constituents with Insufficient or Erroneous Assessments in BDCP DEIR/EIS

The specific technical issues with the findings for the preferred alternative (Number 4) impact assessment on water quality (Chapter 8) for nine constituents, or classes of constituents, is discussed below.

Pesticides and Herbicides

Assessment Type	CEQA Assessment Finding for Alternative 4	
Qualitative	CM1 (WQ-21)	Less than significant
	CM13 (WQ-22)	Significant and Unavoidable

Technical Issues with Finding

Insufficient analysis of sources affecting Delta aquatic life

Page 8-83 lists a number of sources to the Delta, but it does not evaluate the relative contribution from these sources and the fate and transport of pesticides and herbicides in the Delta. The Weston, *et. al.* research cited in the DEIR/EIS primarily examines urban tributaries and locations near urban runoff outfalls and POTW effluent. Data collected by the City with the SSQP show significant concentration decreases of pyrethroids from the source to the Delta, such that river concentrations are lower than known effect levels. This is also consistent with the Department of Pesticide Regulation (DPR) findings in similar work.⁶

Inaccurate time period characterization

In several instances (page 8-83 line 40, Table 8-23, Table 8-24, Table 8-25, page 8-86 lines 12-19, page 8-164 lines 8-11), organophosphate (OP) pesticides data used for analysis are from samples collected prior to the 2005 California use ban. The use of this data can lead to inaccurate characterization of current concentrations, and more recent data (i.e., 2005-2014) should be used to provide accurate representation of existing conditions. It is not sufficient to state that pyrethroid pesticides will affect aquatic species in the same way as OP pesticides, since it is known that their environmental toxicity, half-life, and transport modes are different.

Inaccurate and insufficient characterization of available data

⁶ http://www.cdpr.ca.gov/docs/emon/surfwtr/presentations/ensminger_2014_jan_13_pyrethroid_trends.pdf

Page 8-85 states that “Limited data and studies are available for characterizing the existing conditions of pesticide concentrations in the study area,” which is misleading and inaccurate. This statement is repeated elsewhere and is not substantiated nor investigated further (page 8-163, lines 35-37, page 8-165 lines 8-9). Data gaps should be clearly stated and prioritized such that they can be addressed through better research or collected as part of the BDCP Adaptive Management.

This inaccurate and insufficient characterization is reinforced by the readily available data from a number of public sources. For example, the City collects Sacramento River data through the Coordinated Monitoring Program, USGS has an active Delta pesticide monitoring program⁷, DPR also has active monitoring programs and available data in and around the Delta⁸, and areas upstream of the Delta are monitored through the Regional Water Quality Control Board’s Irrigated Lands Regulatory Program⁹.

Failure to recognize the role of the California Department of Pesticide Regulation and EPA in regulating pesticide usage

Page 8-84 lines 23-33 describe DPR activities, but do not recognize that DPR and EPA approve pesticides for usage that local agencies have no legal authority to restrict.

State of knowledge regarding pesticide effects on the Pelagic Organism Decline (POD)

The DEIR/EIS summary of the Johnson, et. al. report (2010) omitted a key finding regarding contaminants and the Pelagic Organism Decline (POD):

*Consequently, the results of the six comparisons for chemistry, toxicity, and histological data were placed into a weight of evidence context. The conclusion that is drawn from the analyses is that while contaminants are unlikely to be a major cause of the POD, they cannot be eliminated as a possible contributor to the decline.*¹⁰

While this conclusion is not specific to pesticides, pesticides were the focus of the evaluation and predominate the robust dataset. Furthermore, it is inaccurate to characterize the state of knowledge on pesticides as insufficient for the purposes of the DEIR/EIS. Certainly, there are adequate data and information to make meaningful and quantitative assessments. Even the “dynamic state of the pesticide market” (page 8-164, line 23) can be well-quantified with detailed use, sales, and application rates that are reported every year.

Inaccurate and insufficient assessment of impact of SWP and CVP on pesticide use

Any changes in the available water for agriculture will change the timing and extent of pesticide application. Moreover, Impact WQ-21 (page 8-275 lines 26-29, page 8-463 lines 11-23, etc.) is considered a non-adverse impact though there is no evaluation of how decreases in flow (see Appendix 8L, Table 2) in the upstream areas may concentrate pesticides.

Insufficient assessment of additive toxicity

⁷ <http://ca.water.usgs.gov/projects/PFRG/CurrentProjects.html>

⁸ <http://www.cdpr.ca.gov/docs/emon/surfwtr/surfcont.html>

⁹ http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/water_quality_monitoring/index.shtml

¹⁰ http://www.waterboards.ca.gov/rwqcb5/water_issues/delta_water_quality/comprehensive_monitoring_program/contaminant_synthesis_report.pdf

The assessment also does not evaluate the additive toxicity component of pesticides that is included in current and proposed Total Maximum Daily Loads (TMDLs) and Basin Plan Amendments affecting the Plan and Study areas.^{11,12}

Insufficient assessment of MUN beneficial use impacts from pesticides

Historically, there have been impacts to drinking water supplies from upstream pesticide use in the upper watershed, and these have been successfully addressed through management programs. Reductions of upstream flows may impact source water quality with respect to pesticide detections and concentrations; this may impact drinking water treatment and quality and should be evaluated. The BDCP asserts that drinking water treatment would prevent impacts of source water increases of pesticide levels (page 25-114, lines 20-25 and page 25-189, lines 38-45). This is not an accurate statement or assumption; conventional filtration is not a best available technology for organic constituents, and increased costs may be required to provide additional treatment.

The aforementioned omissions and inaccuracies must be addressed and the DEIR/EIS must include a quantitative assessment of changes in pesticide concentrations for the baseline and BDCP alternatives. A reasonable range of known pesticides should be considered in the context of additive toxicity as described in the Sacramento River Basin and San Joaquin River Basin Plan (page IV-34.00). More specific comments are presented in Attachment 1.

Methylmercury (WQ-13)

Assessment Type	CEQA Assessment Finding for Alternative 4	
Quantitative (limited to the Delta)	CM1	Less than significant

Technical Issues with Finding

Insufficient assessment of the effect of reservoir level on methylmercury and mercury concentration Page 8-443, lines 9-15, states that there were not strong correlations between methylmercury concentrations and flow; however, an equally or more relevant relationship is with reservoir stage and/or inputs and operations of wetlands or wetland-like facilities. Since detailed modeling was not performed on the sources, sinks, and fate and transport of methylmercury, a broader range of analysis is required to assess the impacts of the BDCP operations of CM1 as well as other conservation measures.

Insufficient assessment of compliance with Delta Methylmercury TMDL

The DEIR/EIS does not address how CM1 would meet the requirements of the TMDL to decrease methylmercury concentrations in the Delta.

Impact WQ-13 must be reevaluated based on other operational relationships (e.g., reservoir stage, turbidity, pH, etc.). Consistency with the TMDL should also be evaluated. More specific comments are presented in Attachment 1.

¹¹http://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/central_valley_projects/central_valley_pesticides/20140103_cv_dc_bpa_stfrpt.pdf

¹²http://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.shtml

Methylmercury (WQ-14)

Assessment Type	CEQA Assessment Finding for Alternative 4	
Quantitative (limited to the Delta)	CM2-CM22	Significant and unavoidable

*Technical Issues with Finding***Insufficient assessment of mitigation measures**

While several possible control approaches are discussed (page 8-446, lines 24-38), they are not evaluated in sufficient detail to assess the potential benefits or possible other consequences (e.g., reduced flow, discharge of secondary constituents due to chemical dosing, etc.).

Insufficient assessment of compliance with Delta Methylmercury TMDL

The DEIR/EIS does not address how CMs 2 through 22 would meet the requirements of the TMDL to decrease methylmercury concentrations in the Delta or meet subarea wasteload allocations.

Additional assessments of mitigation measures must be performed as part of the DEIR/EIS water quality evaluation. Consistency with the TMDL should also be evaluated. More specific comments are presented in Attachment 1.

Pathogens (WQ-19 and WQ-20)

Assessment Type	CEQA Assessment Finding for Alternative 4	
Qualitative	CM1	Less than significant
	CM2-CM22	Less than significant

*Technical Issues with Finding***Insufficient analysis of the effect of temperature increases on pathogen and surrogate concentrations and growth**

Temperature modeling identified increases in several areas, including the upstream reservoirs and rivers; however, impacts to drinking water intakes were not specifically evaluated. This is a significant omission.

Inaccurate and incomplete general statements regarding pathogen decay rates

In multiple cases (page 8-208, lines 9-14), it is stated that pathogens may not be historically detected because of rapid “die-off” - while this may be true for some bacteria, this broad statement does not adequately recognize the significantly lower decay rates of protozoa, such as *Giardia* and *Cryptosporidium*.

Insufficient analysis of the impact of restoration areas on pathogen concentrations

Restoration areas are potential sources of pathogens from wildlife that are not considered and could pose an impact to beneficial uses. The Central Valley Drinking Water Policy (July 2013 Basin Plan Amendment) concluded that current conditions were supportive of the MUN beneficial use; however, the trigger values in the Policy could be exceeded with only small increases in observed intake concentrations from the proposed restoration areas.

Incomplete analysis of the impact of CM2 on pathogen concentrations

CM2 will impact the hydrologic conditions in the Lower Sacramento River and, thus, may impact the concentration of pathogens and surrogates in that area.

Additional assessment of pathogens and surrogates related to restoration area impacts, decay rates, the effect of temperature, and the effect of CM2 must be performed as part of the DEIR/EIS water quality evaluation. More specific comments are presented in Attachment 1.

Dissolved Organic Carbon (WQ-17 and WQ-18)

Assessment Type	CEQA Assessment Finding for Alternative 4	
Quantitative (limited to the Delta)	CM1	Less than significant
	CM4-CM7 and CM10 (with Mitigation Measure WQ-18)	Significant and unavoidable impacts

Technical Issues with Finding

Insufficient assessment of CM1 effects on TOC based on reservoir operation

The DEIR/EIS assumes that the lack of correlation of flows with organic carbon concentrations is a basis to conclude that CM1 will not change organic carbon concentrations (page 8-452, lines 8-14). However, if this correlation approach is used, a broader range of factors and more detailed examinations should be performed in critical areas. In the larger system, certain factors may offset each other, and the timing of effects over the larger system can also make these correlation evaluations less powerful.

Insufficient scope of quantitative assessment

The quantitative assessment of organic carbon was limited to the Delta and does not provide any meaningful evaluation of impacts to other areas adjacent to the Delta, such as the Lower Sacramento River, that may be significantly impacted by CM1 and CM2.

Insufficient assessment of impacts to MUN beneficial use

The DEIR/EIS projects increases in organic carbon at water intakes (<0.5 mg/L) for the various scenarios (page 8-452, lines 3-8 and 32-34), which increases the frequency of exceeding the various benchmark concentrations of 2.0 mg/L, 3.0 mg/L, and 4.0 mg/L. These increases are significant and may cause impacts to the MUN beneficial use, especially when considered cumulatively with bromide concentrations and temperature increases.

Mitigation measure WQ-17 is insufficient and vague

The proposed mitigation measure (page 8-458, lines 8-38) suggests means to reduce export of organic carbon from restoration areas and then concludes that this may be in conflict with the stated goals of the BDCP. While the BDCP provides limited environmental commitments to upgrade selected water treatment facilities located in the Delta, the assessment should be broader and provide a method to more specifically identify which treatment plants will require upgrades, as well as how this approach is consistent with the Basin Plan and water quality regulations. The Central Valley Drinking Water Policy Workgroup prepared a detailed computational model of organic carbon in the Central Valley and Delta, which may assist with the needed evaluations.

Incomplete analysis of the impact of CM2 on organic carbon concentrations

CM2 will impact the hydrologic conditions in the Lower Sacramento River and, thus, may impact the concentration of organic carbon in that area.

The DEIR/EIS must provide additional assessments of the effects of reservoir operations on organic carbon in localized areas as well as an expansion of the quantitative assessment area.

The cumulative effects from CMs1-22 should be evaluated for impacts to MUN beneficial uses. The Central Valley Drinking Water Policy Workgroup developed models of the organic carbon system that should be used as examples of an adequate approach for assessment. That group also evaluated the drinking water treatment requirements based on changes in source water that should be used for assessment of beneficial uses.¹³

More specific comments are presented in Attachment 1.

EC, Chloride, and Bromide (WQ-5, WQ-6, WQ-7, WQ-8, WQ-11, and WQ-12)

Assessment Type	CEQA Assessment Finding for Alternative 4
Quantitative (limited to the Delta)	Varies by constituent and CM Less than significant to Significant and Unavoidable with Mitigation Measures

Technical Issues with Finding

Inappropriate application of long-term averages for these constituents

EC, chloride, and bromide are not detectable at high levels in the Sacramento River or its tributaries. These sources have relatively consistent levels of these constituents; however, if reverse flow occurs in the lower reaches of the river, then there could be very episodic and significant increases in these constituents due to saline intrusion. Disinfection by-products in the treated water would be impacted by these increases, and compliance is calculated quarterly; therefore, long-term averages are not representative of the potential impacts to the MUN beneficial use.

Inaccurate assessment of climate change impacts

The BDCP asserts (page 8-184, lines 9-12, page 8-187, lines 19-22, and page 8-194, lines 40-43) that the concentration of these constituents in the Sacramento River would not be impacted by climate change in the No Action Alternative. This is incorrect as EC, chloride, and bromide could all increase in the Sacramento River in the event of sea level rise, increased tidal amplitude, or increased reverse flow events.

Chloride, EC and bromide assessments must be revised with shorter-term averaging and account for the potential impacts caused by climate change. More specific comments are presented in Attachment 1.

Temperature

Assessment Type	CEQA Assessment Finding for Alternative 4
Quantitative	Not considered in Chapter 8 water quality impacts

¹³ http://www.waterboards.ca.gov/centralvalley/water_issues/drinking_water_policy/dwp_trtmnt_eval_rpt.pdf, Chapter 5